

**ANALYSIS, PRELIMINARY DETERMINATION AND DRAFT PERMIT  
FOR  
NORTHERN ENGRAVING CORP  
LOCATED AT  
803 S BLACK RIVER ST  
SPARTA, MONROE COUNTY, WISCONSIN  
ON THE OPERATION OF  
DECORATED NAMEPLATE MANUFACTURING FACILITY  
AND THE REVISION OF AIR POLLUTION CONTROL PERMITS:  
97-JCH-130, 97-JCH-107, 95-MM-617, 93-IRS-040, 92-POY-157, 92-POY-068, 91-POY-136,  
91-POY-088, 90-IRS-135, EOP-10-KJC-83-32-077A, 642025010-N01, 87-IRS-081,  
87-MJT-033, 86-RV-049, AND EOP-10-KJC-83-42-077**

This review was performed by the Wisconsin Department of Natural Resources in accordance with Sections 285.60 to 285.65, Wis. Stats and Chapter NR 407, Wis. Adm. Code. This review is for a Part 70 source located in an area which is designated attainment/unclassified for all criteria pollutants.

**Air Pollution Control Operation Permit: 642025010-F01**

**Analysis, Preliminary Determination**

**and Draft Permit prepared by:** Mary Carter Date 4/10/2002

<i>Approval Element</i>	<i>Initials and Date</i>
<i>Preliminary Determination Document (including calculations)</i>	<i>/s/ BKE 4/15/2002</i>
<i>Applicable Requirement</i>	<i>/s/ BKE 4/15/2002</i>
<i>Compliance Documentation Methods</i>	<i>/s/ MFS 4/15/2002</i>
<i>Compliance Plan and Schedule</i>	<i>na</i>
<i>Federal Enforceability of Permit Conditions (synthetic minor conditions)</i>	<i>/s/ JEA 4/15/2002</i>

**Approved for Public Review and Comment:** /s/ Joseph E. Ancel Date: 4/15/2002

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## INTRODUCTION

Sources which are not exempt from the operation permit requirements under Section 407.03, Wis. Adm. Code, are required to obtain an air pollution control operation permit. Sources subject to the requirements must submit a permit application to the Department of Natural Resources by the date set forth in Sections 285.62(11)(b)1., Wis. Stats., and NR 407.04, Wis. Adm. Code. The application is then reviewed following the provisions set forth in Sections 285.62, 285.63 and 285.64, Wis. Stats., and Chapter NR 407, Wis. Adm. Code.

Subject sources are to be reviewed for their air pollution control technology and for their impact upon the air quality.

This is to insure compliance with all applicable rules and statutory requirements. The review will show why the source(s) operation should be approved, conditionally approved, or disapproved. It will encompass emission calculations and air quality analysis using U.S. EPA models, if applicable. Emissions from volatile organic compound (VOC) sources and small sources whose emissions are known to be insignificant are normally not modeled. As a precautionary note, the emission estimates may be based on U.S. EPA emission factors (AP-42) or theoretical data and can vary from actual stack test data.

This review is based on information contained within the application submitted for an air pollution control operation permit. An operation permit may be issued if the criteria set forth in sections 285.63 and 285.64, Wis. Stats., are met.

A final decision on the operation permit will not be made until the public has had an opportunity to comment on the Department's analysis, preliminary determination and draft permit. The conditions proposed in the draft permit may be revised in any final permit issued based on comments received or further evaluation by the Department.

Owner/Operator:	NORTHERN ENGRAVING CORP 803 S BLACK RIVER ST SPARTA, WI 546560000
Responsible Official:	BRUCE CORNING VP MANAGEMENT SYSTEMS (608)269-6911-481
Permit Contact Person:	RANDY NEDRELO SOLID AND HAZARDOUS WASTE MANAGER (608)269-6911-281
Date of Administratively Complete Application:	07/12/1995
Dates of Submittal:	6/21/1995, 4/11/2000, 11/15/2000, 1/22/2001, 1/23/2001, 1/29/2001, 2/9/2001, 2/13/2001, 3/14/2001, 3/22/2001, 4/5/2001, 4/25/2001, 5/2/2001, 6/29/2001, 10/8/2001, 3/18/2002

## SOURCE DESCRIPTION

**Special Note:** The permittee has elected to enter into a Cooperative Agreement with the Department under the Environmental Cooperation Pilot Program authorized by s. 299.80, Wis. Stats. The aim of this pilot program is to evaluate innovative environmental regulatory methods while providing the same level of protection of public health and the environment as provided under current applicable state and federal requirements. A Cooperative Agreement provides an opportunity for greater flexibility and reduced paperwork and administrative tasks and encourages sources to reduce pollution to levels below those required by state and federal requirements. Section 299.80, Wis. Stats. encourages public participation through an interested persons group. The greater flexibility afforded by the Cooperative Agreement allows variances from requirements under chs. 280 to 295, Wis. Stats. and the Administrative Codes promulgated under those chapters provided the variance results in a measurable reduction in overall levels of pollution and contains pollution limits that are verifiable, enforceable, and at least as stringent as pollution limits under chs. 280 to 295, Wis. Stats. and the rules promulgated under those chapters. Additionally the variance must either promote the reduction in overall levels of pollution to below the levels required under chs. 280 to 295, Wis. Stats. or provide for alternative monitoring, testing, record keeping, notification or reporting requirements that reduce the administrative burden on state agencies or the participant and that provide the information needed to ensure compliance with the Cooperative Agreement and the provisions of chs. 280 to 295, Wis. Stats. and rules promulgated under those chapters for which the Cooperative Agreement does not grant a variance. Any Cooperative Agreement entered into by the Department would have a term of five years with the possibility of a renewal for up to five additional years. The Cooperative Agreement between Northern Engraving Corporation and the Department and supporting background information is contained in separate documents that are available for public review. This preliminary determination to issue Northern Engraving Corporation an operation permit for their Sparta facility highlights the proposed variances from air pollution control provisions of ch. 285, Wis. Stats, ss. NR 400 to 499, Wis. Adm. Code, and requirements contained in air pollution control permits currently held by the company.

## SIGNIFICANT EMISSIONS UNITS

Northern Engraving Corporation manufactures decorative plastic and metal automotive trim and nameplates for the automotive and appliance industries. Operations including aluminum sheet prep, spin and punch press, anodizing and etching, powder coating, wastewater shipping and receiving.

### 1. STACK INFORMATION

Stack Identification Number:	S02
Exhausting Unit(s):	B02
This stack has an actual exhaust point:	Yes
Discharge height above ground level (ft):	25.0
Inside dimensions at outlet (ft):	Rectangular - 4.00 by 4.50
Exhaust flow rate (Normal) (ACFM):	30000
Exhaust gas temperature (Normal) (°F):	70
Exhaust gas discharge direction:	Horizontal
Stack equipped with any obstruction:	No

### A. Emission Unit Information

Boiler/furnace number:	B02
Unit description:	FACILITY WIDE SPACE HEATING
Control technology status:	Uncontrolled
Maximum continuous rating (mmBTU/hr):	33.4
Date of construction or last modification:	1/1/94
Construction Permit Requirements:	Because the space heaters fire gaseous fuels and because the maximum heat input rating of each space heater is less 25.0 mmBtu per hour. They are exempt from construction permit requirements pursuant to s. NR 406.04(1)(a)5., Wis. Adm. Code.

	Primary Fuel	Backup Fuel

Fuel Name	Natural Gas	Propane
Higher Heating Value	1000 mmBtu/cf6	92,000 Btu/gal
Maximum Sulfur Content (weight %)	0	0.01
Maximum Ash Content (weight %)	0	0
Maximum hourly consumption	0.037 cf6	400 gal

### 3. STACK INFORMATION

Stack Identification Number: S12  
 Exhausting Unit(s): B22  
 This stack has an actual exhaust point: Yes  
 Discharge height above ground level (ft): 23.0  
 Inside dimensions at outlet (ft): Circular - 1.70  
 Exhaust flow rate (Normal) (ACFM): 8000  
 Exhaust gas temperature (Normal) (°F): 340  
 Exhaust gas discharge direction: up  
 Stack equipped with any obstruction: Yes

#### A. Emission Unit Information

Boiler/furnace number: B22  
 Unit description: CLEVER BROOKS  
 Control technology status: Uncontrolled  
 Maximum continuous rating (mmBTU/hr): 8.4  
 Date of construction or last modification: 1961  
 Construction Permit Requirements: This boiler is covered by permit EOP-10-KJC-83-42-077 issued on September 7, 1984.

	Primary Fuel	Backup Fuel
Fuel Name	Natural Gas	Propane
Higher Heating Value	1000 mmBtu/cf6	92,000 Btu/gal
Maximum Sulfur Content (weight %)	0	0.01
Maximum Ash Content (weight %)	0	0
Maximum hourly consumption	8400 cf	91.3 gal

### 4. STACK INFORMATION

Stack Identification Number: S13  
 Exhausting Unit(s): B23  
 This stack has an actual exhaust point: Yes  
 Discharge height above ground level (ft): 21.0  
 Inside dimensions at outlet (ft): Circular - 1.60  
 Exhaust flow rate (Normal) (ACFM): 10000  
 Exhaust gas temperature (Normal) (°F): 340  
 Exhaust gas discharge direction: up  
 Stack equipped with any obstruction: Yes

#### A. Emission Unit Information

Boiler/furnace number: B23

Unit description: INDUSTRIAL KEWANEE  
Control technology status: Uncontrolled  
Maximum continuous rating (mmBTU/hr): 10.6  
Date of construction or last modification: 1971  
Construction Permit Requirements: This boiler is covered by permit EOP-10-KJC-83-42-077 issued on September 7, 1984.

	Primary Fuel	Backup Fuel
Fuel Name	Natural Gas	Propane
Higher Heating Value	1000 mmBtu/cf6	92,000 Btu/gal
Maximum Sulfur Content (weight %)	0	0.01
Maximum Ash Content (weight %)	0	0
Maximum hourly consumption	10600 cf	115 gal

#### 5. STACK INFORMATION

Stack Identification Number: S14  
Exhausting Unit(s): B24  
This stack has an actual exhaust point: Yes  
Discharge height above ground level (ft): 21.0  
Inside dimensions at outlet (ft): Circular - 1.60  
Exhaust flow rate (Normal) (ACFM): 10000  
Exhaust gas temperature (Normal) (°F): 340  
Exhaust gas discharge direction: up  
Stack equipped with any obstruction: Yes

#### A. Emission Unit Information

Boiler/furnace number: B24  
Unit description: KEWANEE INDUSTRIAL  
Control technology status: Uncontrolled  
Maximum continuous rating (mmBtu/hr): 10.6  
Date of construction or last modification: 1971  
Construction Permit Requirements: This boiler is covered by permit EOP-10-KJC-83-42-077 issued on September 7, 1984.

	Primary Fuel	Backup Fuel
Fuel Name	Natural Gas	Propane
Higher Heating Value	1000 mmBtu/cf6	92,000 Btu/gal
Maximum Sulfur Content (weight %)	0	0.01
Maximum Ash Content (weight %)	0	0
Maximum hourly consumption	10600 cf	115 gal

#### 6. STACK INFORMATION

Stack Identification Number: S15

Exhausting Unit(s): B25  
 This stack has an actual exhaust point: Yes  
 Discharge height above ground level (ft): 24.0  
 Inside dimensions at outlet (ft): Circular - 1.60  
 Exhaust flow rate (Normal) (ACFM): 10000  
 Exhaust gas temperature (Normal) (°F): 340  
 Exhaust gas discharge direction: up  
 Stack equipped with any obstruction: Yes

A. Emission Unit Information

Boiler/furnace number: B25  
 Unit description: CLEVER BROOKS INDUSTRIAL  
 Control technology status: Uncontrolled  
 Maximum continuous rating (mmBtu/hr): 6.3  
 Date of construction or last modification: 1961  
 Construction Permit Requirements: This boiler is covered by permit EOP-10-KJC-83-42-077 issued on September 7, 1984.

	Primary Fuel	Backup Fuel #2
Fuel Name	Natural Gas	Propane
Higher Heating Value	1000 mmBtu/cf6	92,000 Btu/gal
Maximum Sulfur Content (weight %)	0	0.01
Maximum Ash Content (weight %)	0	0
Maximum hourly consumption	6300 cf	68 gal

7. STACK INFORMATION

Stack Identification Number: S03  
 Exhausting Unit(s): P03  
 This stack has an actual exhaust point: Yes  
 Discharge height above ground level (ft): 23.0  
 Inside dimensions at outlet (ft): Circular - 2.50  
 Exhaust flow rate (Normal) (ACFM): 4000  
 Exhaust gas temperature (Normal) (°F): 200  
 Exhaust gas discharge direction: up  
 Stack equipped with any obstruction: no

A. Emission Unit Information

Process number: P03  
 Unit description: 5 LITHO LINES  
 Control technology status: Uncontrolled  
 Operation type: LITHOGRAPHIC  
 Date of construction or last modification: 1995  
 Oven curing: electric  
 Construction Permit Requirements: These emissions units are not subject to construction permit requirements because the maximum theoretical VOC emissions are less than 5.7 pounds per hour, pursuant to s. NR 406.04(2), Wis. Adm. Code.

8. STACK INFORMATION

Stack Identification Number: S18  
 Exhausting Unit(s): P32

This stack has an actual exhaust point: Yes  
 Discharge height above ground level (ft): 31.0  
 Inside dimensions at outlet (ft): Circular - 5.20  
 Exhaust flow rate (Normal) (ACFM): 14400  
 Exhaust gas temperature (Normal) (°F): 350  
 Exhaust gas discharge direction: Up  
 Stack equipped with any obstruction: No

#### A. Emission Unit Information

Process number: P32  
 Unit description: 3 COATING LINES  
 Control technology status: Controlled  
 Application technique: ROLL COATING  
 Transfer efficiency (%): 100.00  
 Date of construction or last modification: 1993  
 Oven curing: Yes  
 Maximum continuous rating of ovens (mmBtu/hr): 24.0

	Primary Fuel	Backup Fuel #1
Fuel Name	Natural Gas	Propane
Higher Heating Value	1000 mmBtu/cf6	92,000 Btu/gal
Maximum Sulfur Content (weight %)	0	0.01
Maximum Ash Content (weight %)	0	0
Maximum hourly consumption	0.024 cf6	0.26 gal3

Construction Permit Requirements: The roll coating lines are covered by permit 92-POY-157 issued April 2, 1993 and permit 91-POY-088 issued on October 22, 1991.

Control device associated with this emissions unit

Emission unit controlled: P32  
 Control device number: C18  
 Date of installation: 4/1/93  
 Description of device: DENTROL SYSTEMS 12000 SCFM THERMAL OXIDIZER

Pollutant(s) controlled	Efficiency (%)
Volatile Organic Compounds	95.0

#### 9. STACK INFORMATION

Stack Identification Number: S19  
 Exhausting Unit(s): P33  
 This stack has an actual exhaust point: Yes  
 Discharge height above ground level (ft): 24.0  
 Inside dimensions at outlet (ft): Circular - 3.20  
 Exhaust flow rate (Normal) (ACFM): 9000  
 Exhaust gas temperature (Normal) (°F): 80  
 Exhaust gas discharge direction: Up  
 Stack equipped with any obstruction: No

#### A. Emission Unit Information

Process number: P33  
 Unit description: SPRAY BOOTHS 1-2, BOX OVEN

Control technology status: Controlled  
 Application technique: SPRAY  
 Transfer efficiency (%): 50.00  
 Date of construction or last modification: 4/3/93  
 Oven curing: Yes  
 Maximum continuous rating of oven (mmBtu/hr): 6.4

	Primary Fuel	Backup Fuel #1
Fuel Name	Natural Gas	Propane
Higher Heating Value	1000 mmBtu/cf6	92,000 Btu/gal
Maximum Sulfur Content (weight %)	0	0.01
Maximum Ash Content (weight %)	0	0
Maximum hourly consumption	0.006 cf6	0.07 gal3

Construction Permit Requirements: This process is covered by permits 91-POY-088 issued on October 22, 1991 and 92-POY-157 issued on April 2, 1993.

Control device associated with this emissions unit  
 Emission unit controlled: P33  
 Control device number: C19  
 Date of installation: 1/1/93  
 Description of device: PAPER PAINT FILTERS

Pollutant(s) controlled	Efficiency (%)
Particulate matter emissions	95.0

Control device associated with this emissions unit  
 Emission unit controlled: P33  
 Control device number: C18  
 Date of installation: 1/1/93  
 Description of device: DENTROL SYSTEMS 12000 SCFM THERMAL OXIDIZER OR CATALYTIC COMBUSTION 8000 SCFM THERMAL OXIDIZER

Pollutant(s) controlled	Efficiency (%)
Volatile organic compounds	95.0

### 13. STACK INFORMATION

Stack Identification Number: S53  
 Exhausting Unit(s): P37  
 This stack has an actual exhaust point: Yes  
 Discharge height above ground level (ft): 23.0  
 Inside dimensions at outlet (ft): Circular - 2.60  
 Exhaust flow rate (Normal) (ACFM): 10000  
 Exhaust gas temperature (Normal) (°F): 270  
 Exhaust gas discharge direction: Up  
 Stack equipped with any obstruction: No

#### A. Emission Unit Information

Process number: P37  
 Unit description: 3 SCREENING LINES



Control technology status:	Uncontrolled
Operation type:	Screen printing
Date of construction or last modification:	4/1/91
Oven curing:	Yes - 3 natural gas/propane ovens each with a total maximum heat input of 8.5 mmBtu/hr
Construction Permit Requirements:	This process is covered by permits 92-POY-068, EOP-10-KJC-83-42-077A, and EOP-10-KJC-83-42-077.

#### 14. STACK INFORMATION

Stack Identification Number:	S41
Exhausting Unit(s):	P41
This stack has an actual exhaust point:	Yes
Discharge height above ground level (ft):	20.0
Inside dimensions at outlet (ft):	Circular - 2.1
Exhaust flow rate (Normal) (ACFM):	1000
Exhaust gas temperature (Normal) (°F):	300
Exhaust gas discharge direction:	Up
Stack equipped with any obstruction:	No

#### A. Emission Unit Information

Process number:	P41
Unit description:	2 LITHO LINES each with a UV oven
Control technology status:	Uncontrolled
Operation type:	LITHOGRAPHIC
Date of construction or last modification:	11/2001
Oven curing:	electric
Construction Permit Requirements:	These emissions units are not subject to construction permit requirements because the maximum theoretical VOC emissions are less than 5.7 pounds per hour, pursuant to s. NR 406.04(2), Wis. Adm. Code.

#### 15. STACK INFORMATION

Stack Identification Number:	S42
Exhausting Unit(s):	P42
This stack has an actual exhaust point:	Yes
Discharge height above ground level (ft):	22.0
Inside dimensions at outlet (ft):	Circular - 2.1
Exhaust flow rate (Normal) (ACFM):	4300
Exhaust gas temperature (Normal) (°F):	300
Exhaust gas discharge direction:	Up
Stack equipped with any obstruction:	No

#### A. Emission Unit Information

Process number:	P42
Unit description:	2 COATING LINES each with an electric drying oven - These coating lines are used for R&D Activities which include the two coaters (P42) and a spraybooth for coating metal (P44).
Control technology status:	Uncontrolled
Application technique:	ROLL COATING
Transfer efficiency (%)	100.00
Date of construction or last modification:	11/2001
Oven curing:	electric
Construction Permit Requirements:	Because this process will not emit greater than 1666 pounds of volatile organic compounds per month it is exempt from construction permit requirements pursuant to s. NR 406.04(1)(g), Wis. Adm. Code.

#### 16. STACK INFORMATION

Stack Identification Number:	S43
Exhausting Unit(s):	P43
This stack has an actual exhaust point:	Yes

Discharge height above ground level (ft): 20.0  
 Inside dimensions at outlet (ft): Circular - 1.9  
 Exhaust flow rate (Normal) (ACFM): 3200  
 Exhaust gas temperature (Normal) (°F): 300  
 Exhaust gas discharge direction: Up  
 Stack equipped with any obstruction: No

A. Emission Unit Information

Process number: P43  
 Unit description: 3 SCREENING LINES with 2 electric ovens  
 Control technology status: Uncontrolled  
 Operation type: Screen printing  
 Date of construction or last modification: 11/2001  
 Oven curing: electric  
 Construction Permit Requirements: These emissions units are not subject to construction permit requirements because the maximum theoretical VOC emissions are less than 5.7 pounds per hour, pursuant to s. NR 406.04(2), Wis. Adm. Code.

17. STACK INFORMATION

Stack Identification Number: S44  
 Exhausting Unit(s): P44  
 This stack has an actual exhaust point: Yes  
 Discharge height above ground level (ft): 20.0  
 Inside dimensions at outlet (ft): Circular - 1.5  
 Exhaust flow rate (Normal) (ACFM): 2000  
 Exhaust gas temperature (Normal) (°F): 70  
 Exhaust gas discharge direction: Up  
 Stack equipped with any obstruction: No

A. Emission Unit Information

Process number: P44  
 Unit description: SPRAY BOOTH - This spray booth is used for R&D Activities which include the spraybooth for coating metal (P44) and two coaters (P42).  
 Control technology status: Controlled  
 Application technique: SPRAY  
 Transfer efficiency (%): 50.00  
 Date of construction or last modification: 11/2001  
 Oven curing: No  
 Construction Permit Requirements: These emissions units are not subject to construction permit requirements because the maximum theoretical VOC emissions are less than 5.7 pounds per hour and the maximum theoretical PM emissions are less than 5.7 pounds per hour, pursuant to s. NR 406.04(2), Wis. Adm. Code.

Control device associated with this emissions unit  
 Emission unit controlled: P44  
 Control device number: C44  
 Date of installation: 11/2001  
 Description of device: PAPER PAINT FILTERS

Pollutant(s) controlled	Efficiency (%)
Particulate matter emissions	90.0

## 18. STACK INFORMATION

Stack Identification Number: S56  
 Exhausting Unit(s): P56  
 This stack has an actual exhaust point: Yes  
 Discharge height above ground level (ft): 26.0  
 Inside dimensions at outlet (ft): Circular - 1.00  
 Exhaust flow rate (Normal) (ACFM): 1500  
 Exhaust gas temperature (Normal) (°F): 100  
 Exhaust gas discharge direction: Up  
 Stack equipped with any obstruction: No

### A. Emission Unit Information

Process number: P56  
 Unit description: COATER WITH DRYING OVEN  
 Control technology status: Uncontrolled  
 Application technique: ROLL COATING  
 Transfer efficiency (%): 100  
 Date of construction or last modification: 1993  
 Oven curing: Yes - electric  
 Construction Permit Requirements: This unit is covered by permit 93-IRS-040 issued on June 4, 1993 and permit 87-MJT-033 issued on August 21, 1987.

## 19. STACK INFORMATION

Stack Identification Number: S57  
 Exhausting Unit(s): P57  
 This stack has an actual exhaust point: Yes  
 Discharge height above ground level (ft): 26.0  
 Inside dimensions at outlet (ft): Circular - 1.5  
 Exhaust flow rate (Normal) (ACFM): 1400  
 Exhaust gas temperature (Normal) (°F): 70  
 Exhaust gas discharge direction: Up  
 Stack equipped with any obstruction: No

### A. Emission Unit Information

Process number: P57  
 Unit description: PLASTIC SPRAY BOOTH  
 Control technology status: Controlled  
 Application technique: SPRAY GUN  
 Transfer efficiency (%): 50  
 Date of construction or last modification: 3/15/89  
 Oven curing: Yes - P57 uses the same oven as P33  
 Construction Permit Requirements: This unit is covered by permit 642025010-N01 issued on March 2, 1989.

Control device associated with this emissions unit

Emission unit controlled: P57  
 Control device number: C57  
 Date of installation: 1/1/93  
 Description of device: PAPER PAINT FILTERS

Pollutant(s) controlled	Efficiency (%)
Particulate matter emissions	95.0

## 20. STACK INFORMATION

Stack Identification Number: S61

Exhausting Unit(s):	P61
This stack has an actual exhaust point:	Yes
Discharge height above ground level (ft):	23.0
Inside dimensions at outlet (ft):	Circular - 1.50
Exhaust flow rate (Normal) (ACFM):	1200
Exhaust gas temperature (Normal) (°F):	75
Exhaust gas discharge direction:	Up
Stack equipped with any obstruction:	No

A. Emission Unit Information

Process number:	P61
Unit description:	FOIL LINE-COLD STRIP CLEANER
Control technology status:	Uncontrolled
Date of construction or last modification:	5/1/61
Construction Permit Requirements:	Because this unit was installed prior to 1980 it is not subject to the construction permit requirements of ch. NR 406, Wis. Adm. Code.

21. STACK INFORMATION

Stack Identification Number:	S63
Exhausting Unit(s):	P63
This stack has an actual exhaust point:	No

A. Emission Unit Information

Process number:	P63
Unit description:	MISCELLANEOUS FACILITY CLEANUP
Control technology status:	Uncontrolled
Date of construction or last modification:	1/1/94
Construction Permit Requirements:	Clean-up was covered in the construction permits issued for each process.

22. STACK INFORMATION

Stack Identification Number:	S72
Exhausting Unit(s):	P72
This stack has an actual exhaust point:	Yes
Discharge height above ground level (ft):	25.0
Inside dimensions at outlet (ft):	Circular - 0.70
Exhaust flow rate (Normal) (ACFM):	200
Exhaust gas temperature (Normal) (°F):	70
Exhaust gas discharge direction:	Up
Stack equipped with any obstruction:	No

A. Emission Unit Information

Process number:	P72
Unit description:	TOWEL DRYER TO VOLATILIZE VOCS
Control technology status:	Uncontrolled
Date of construction or last modification:	1/1/91
Construction Permit Requirements:	This unit is covered by permit 90-IRS-135 issued on January 25, 1991.

Raw Material	Maximum Throughput
Towels	1000 batches per year
Finished Products	Maximum Produced
dried towels	1000 batches per year

### 23. STACK INFORMATION

Stack Identification Number: S88  
 Exhausting Unit(s): P88  
 This stack has an actual exhaust point: Yes  
 Discharge height above ground level (ft): 26.0  
 Inside dimensions at outlet (ft): Rectangular - 2.00 by 2.50  
 Exhaust flow rate (Normal) (ACFM): 13130  
 Exhaust gas temperature (Normal) (°F): 70  
 Exhaust gas discharge direction: Up  
 Stack equipped with any obstruction: No

#### A. Emission Unit Information

Process number: P88  
 Unit description: CLEANING, ETCHING, NICKEL SEALING, AND ANODIZING TANKS (includes P-88-AES and P-90-ANS)  
 Control technology status: Controlled  
 Date of construction or last modification: 1/1/94  
 Construction Permit Requirements: This unit is covered by permit 93-IRS-040 issued on June 4, 1993.

Control device associated with this emissions unit

Emission unit controlled: P88  
 Control device number: C88  
 Date of installation: 1/1/93  
 Description of device: MIST ELIMINATOR - KCH SPECTRA I HORIZONTAL IN LINE W/ TI 29 MESH PAD, MAGNAHELIC GAUGE, AND MANUAL SPRAY WASH DOWN, W/ INLET AND OUTLET TRANSITION.

Pollutant(s) controlled	Efficiency (%)
fluoride	90.0
nickel	90.0
sulfuric acid	90.0

### 24. STACK INFORMATION

Stack Identification Number: S89  
 Exhausting Unit(s): P89  
 This stack has an actual exhaust point: Yes  
 Discharge height above ground level (ft): 27.0  
 Inside dimensions at outlet (ft): Rectangular - 0.80 by 2.00  
 Exhaust flow rate (Normal) (ACFM): 4400  
 Exhaust gas temperature (Normal) (°F): 70  
 Exhaust gas discharge direction: Up  
 Stack equipped with any obstruction: No

Stack Identification Number: S91  
 Exhausting Unit(s): P89  
 This stack has an actual exhaust point: Yes  
 Discharge height above ground level (ft): 26.0  
 Inside dimensions at outlet (ft): Rectangular - 1.20 by 0.80  
 Exhaust flow rate (Normal) (ACFM): 2800  
 Exhaust gas temperature (Normal) (°F): 70  
 Exhaust gas discharge direction: Up

Stack equipped with any obstruction:

No

A. Emission Unit Information

Process number: P89  
Unit description: DESMUT AND BRITE DIP TANKS AND BRITE DIP HOOD (TRAVEL VENT)  
Control technology status: Controlled  
Date of construction or last modification: 1/1/94  
Construction Permit Requirements: This unit is covered by permit 93-IRS-040 issued on June 4, 1993.

Control device associated with this emissions unit

Emission unit controlled: P89  
Control device number: C89  
Date of installation: 1/1/94  
Description of device: PLENUM EXHAUSTS FROM THE BRITE DIP (R5) TANK, BRITE DIP RINSE TANK AND DESMUT/ALKALINE ETCH TANKS ARE EXHAUSTED TO A WET SCRUBBER W/PH CONTROL AND DEMISTER.

Pollutant(s) controlled	Efficiency (%)
Nitric acid	90.0
Condensable Particulate Matter	90.0

Control device associated with this emissions unit

Emission unit controlled: P89 - Brite Dip Hood Travel Vent  
Control device number: C91  
Date of installation: 1/1/94  
Description of device: WET SCRUBBER

Pollutant(s) controlled	Efficiency (%)
Nitric acid	90.0
Condensable Particulate Matter	90.0

INSIGNIFICANT EMISSIONS UNITS

Maintenance of Grounds, Equipment, and Bldgs  
Demin and Oxy Scavenging of Water for Boilers  
Pollution Control Equipment Maintenance  
Int Comb Eng Used for Warehouse and Mat Trans  
Fire Control Equipment  
Janitorial Services  
Office Activities  
Convenience Water Heating  
Boiler, Turbine, and HVAC System Maintenance  
Sanitary Sewer and Plumbing Venting  
Soil remediation  
Solvent tank, Wetlook  
Carpentry shop, Diamond cutting, Powder coat  
Plating stripper tank, Nickel seal-powder hood  
Acid filling area, circular caustic etch  
Green plastisol tank  
Shears - leaked Adhesive application  
Norlens

Paint Lab  
Screen making  
Wastewater treatment  
Injection molding & water quality lab  
Litho lab

**REVISION APPLICABILITY** Any operation permit issued by the Department would revise air pollution control permits 97-JCH-130 issued 12/1/1997, 97-JCH-107 issued 10/17/1997, 95-MM-617 issued 3/1/1996, 93-IRS-040 issued 6/4/1993, 92-POY-157 issued 4/2/1993, 92-POY-068 issued 8/11/1992, 91-POY-136 issued 1/21/1992, 91-POY-088 issued 10/22/1991, 90-IRS-135 issued 1/25/1991, EOP-10-KJC-83-32-077A issued 5/18/1990, 642025010-N01 issued 3/2/1989, 87-IRS-081 issued 1/14/1988, 87-MJT-033 issued 8/21/1987, 86-RV-049 issued 9/23/1986, and EOP-10-KJC-83-42-077 issued 9/7/1984. This revision would remove emissions units which are no longer in operation and make record keeping requirements uniform for those that are still in operation. The revision would change facility wide usage limitations and record keeping requirements making them more restrictive so that the facility would be considered a synthetic minor, non-Part 70 source. Because these changes would not result in an increase in emissions or emission of an air contaminant not previously emitted, they are not considered a modification as defined in s. 285.01(26), Wis. Stats.

**SOURCE SPECIFIC APPLICABLE LIMITATIONS**

For specific calculations please refer to the hand calculation sheets.

**Space Heating Units B02:** Maximum theoretical emissions were calculated using emission factors from AP-42, 5th edition. Because the space heaters were installed and last modified after April 1, 1972, they are subject to s. NR 415.06(2)(a), Wis. Adm. Code, which limits particulate matter emissions to not more than 0.15 pounds per mmBtu heat input from any stack. Because the space heaters were installed and last modified before April 1, 1972, they are subject to s. NR 431.05, Wis. Adm. Code which limits visible emissions to not greater than 20% opacity. The space heaters are subject to the general limitations for sulfur dioxide, volatile organic compounds, carbon monoxide and nitrogen oxides contained in ss. NR 417.03, NR 419.03, NR 426.03 and NR 428.03, Wis. Adm. Code, respectively. These general limitations would be included in Part II of any permit issued by the Department.

**Natural Gas/Propane Boilers B22, B23, B24 and B25:** Maximum theoretical emissions were calculated using emission factors from AP-42, 5th edition. Because each boiler was installed and last modified before April 1, 1972, each boiler is subject to s. NR 415.06(1)(a), Wis. Adm. Code, which limits particulate matter emissions to not more than 0.60 pounds per mmBtu heat input from any stack. However, a limitation restricting particulate matter emissions from each of the boilers to not greater than the maximum theoretical emission rate is necessary to ensure national ambient air quality standards for particulate matter emissions are attained and maintained. This more restrictive emission limitation would be included in any operation permit issued by the Department. Because each boiler was installed and last modified before April 1, 1972, each boiler is subject to s. NR 431.04(1), Wis. Adm. Code which limits visible emissions to not greater than 40% opacity. To protect the national ambient air quality standards for nitrogen oxides stacks S12, S13, S14, and S15 may not be equipped with rainhats or any other device that obstructs vertical discharge of the exhaust gas. This requirement would be included in any operation permit issued by the Department.

Each boiler is subject to the general limitations for sulfur dioxide, volatile organic compounds, carbon monoxide and nitrogen oxides contained in ss. NR 417.03, NR 419.03, NR 426.03 and NR 428.03, Wis. Adm. Code, respectively. These general limitations would be included in Part II of any permit issued by the Department.

The boilers are not subject to the new source performance standards for fossil fuel steam generators of s. NR 440.19, Wis. Adm. Code because each boiler has a heat input rating less than 250 mmBtu per hour and was installed prior to August 17, 1971. The boilers are not subject to the new source performance standards for industrial-commercial-institutional steam generating unit of s. NR 440.205, Wis. Adm. Code, because each boiler has a heat input rating less than 100 mmBtu per hour and was installed prior to June 19, 1984. The boilers are not subject to the new source performance standards for small industrial-commercial-institutional steam generating units of s. NR 440.207, Wis. Adm. Code because each boiler was installed prior to June 9, 1989.

| **5 Lithographic Printing Lines with UV curing P03:** Maximum theoretical emissions were calculated using worst case material usage rates, solid contents, volatile organic compound contents and hazardous pollutant contents. Because the facility is not located in Kenosha, Kewaunee, Manitowoc, Milwaukee, Ozaukee, Racine, Sheboygan,

Washington or Waukesha county the requirements of s. NR 422.142, Wis. Adm. Code do not apply, pursuant to s. NR 422.142(1), Wis. Adm. Code.

Because the maximum theoretical volatile organic compound emissions from each litho line are less than 15 pounds per day, the litho lines are exempt from the requirements of s. NR 424.03(2), Wis. Adm. Code, pursuant to s. NR 424.03(1)(a)4., Wis. Adm. Code. The litho lines are subject to the general limitations for volatile organic compounds outlined in s. NR 419.03, Wis. Adm. Code. These general limitations would be included in Part II of any permit issued by the Department.

3 Roll Coating Machines P32: Maximum theoretical emissions were calculated using worst case material usage rates, solid contents, volatile organic compound contents and hazardous pollutant contents. Because the roll coaters were installed after April 1, 1972 and particulate matter emissions are created from fuel combustion in the ovens, the coaters are subject to s. NR 415.06(2)(a), Wis. Adm. Code which limits particulate matter emissions to not more than 0.15 pounds per mmBtu of heat input. However, a limitation restricting particulate matter emissions from the coaters to not greater than the maximum theoretical emission rate is necessary to ensure national ambient air quality standards for particulate matter emissions are attained and maintained. This more restrictive emission limitation would be included in any operation permit issued by the Department. Because the coaters were constructed after April 1, 1972 they are subject to s. NR 431.05, Wis. Adm. Code which limits visible emissions to not more than 20 percent opacity.

Because the coaters are equipped with natural gas/propane curing ovens, the coaters are subject to s. NR 422.15(2)(a), (b) and (c), Wis. Adm. Code which limits the volatile organic compound contents to not more than 4.3 pounds per gallon of coating, excluding water, delivered to a coating applicator that applies clear coatings, 3.5 pounds per gallon of coating, excluding water, delivered to a coating applicator that applies extreme performance coatings, and 3.0 pounds per gallon of coating, excluding water, delivered to a coating applicator of all other coatings. The permittee shall comply with the volatile organic compound content limitation by the application of low solvent content coating technology, thermal oxidation, provided that 90% of the nonmethane VOCs (VOC measured as total combustible carbon) which enter the oxidation are oxidized to non-organic compounds, or by using in-line averaging. Please see the draft permit for details on how to calculate daily volume-weighted average VOC content. Where the RACT requirements are met by means of a natural gas fired incinerator, use of the incinerator shall be required only during the ozone season, provided that operation of the incinerator is not required for purposes of occupational health or safety or for the control of toxic or hazardous substances, malodors, or other pollutants regulated by other sections of chs. 400 to 499, Wis. Adm. Code, pursuant to s. NR 425.04(4), Wis. Adm. Code.

Each coater is subject to the general limitations for sulfur dioxide, carbon monoxide and nitrogen oxides contained in ss. NR 417.03, NR 426.03 and NR 428.03, Wis. Adm. Code, respectively. These general limitations would be included in Part II of any permit issued by the Department.

2 Metal Spray Booths P33: Maximum theoretical emissions were calculated using worst case material usage rates, solid contents, volatile organic compound contents and hazardous pollutant contents. Because the spray booths were constructed after April 1, 1972 they are subject to the most restrictive of s. NR 415.05(2), Wis. Adm. Code which limits particulate matter emissions to not more than the rate calculated using the process weight rate equation or s. NR 415.05(1)(o), Wis. Adm. Code which limits particulate matter emissions to not more than 0.40 pounds per 1000 pounds gas. In this case the emission rate calculated using the process weight rate equation is most restrictive. Because the spray booths were constructed after April 1, 1972 they are subject to s. NR 431.05, Wis. Adm. Code which limits visible emissions to not more than 20 percent opacity.

Because the spray booths are equipped with natural gas/propane curing ovens, the coaters are subject to s. NR 422.15(2)(a), (b) and (c), Wis. Adm. Code which limits the volatile organic compound contents to not more than 4.3 pounds per gallon of coating, excluding water, delivered to a coating applicator that applies clear coatings, 3.5 pounds per gallon of coating, excluding water, delivered to a coating applicator that applies extreme performance coatings, and 3.0 pounds per gallon of coating, excluding water, delivered to a coating applicator of all other coatings. The permittee shall comply with the volatile organic compound content limitation by the application of low solvent content coating technology, thermal oxidation, provided that 90% of the nonmethane VOCs (VOC measured as total combustible carbon) which enter the oxidation are oxidized to non-organic compounds, or by using in-line averaging. Please see the draft permit for details on how to calculate daily volume-weighted average



VOC content. Where the RACT requirements are met by means of a natural gas fired incinerator, use of the incinerator shall be required only during the ozone season, provided that operation of the incinerator is not required for purposes of occupational health or safety or for the control of toxic or hazardous substances, malodors, or other pollutants regulated by other sections of chs. 400 to 499, Wis. Adm. Code, pursuant to s. NR 425.04(4), Wis. Adm. Code.

Each booth is subject to the general limitations for sulfur dioxide, carbon monoxide and nitrogen oxides contained in ss. NR 417.03, NR 426.03 and NR 428.03, Wis. Adm. Code, respectively. These general limitations would be included in Part II of any permit issued by the Department.

3 Screen Printing Lines P37: Maximum theoretical emissions were calculated using worst case material usage rates, solid contents, volatile organic compound contents and hazardous pollutant contents. Because the printing lines were installed after April 1, 1972 and particulate matter emissions are created from fuel combustion in the ovens, they are subject to s. NR 415.06(2)(a), Wis. Adm. Code which limits particulate matter emissions to not more than 0.15 pounds per mmBtu of heat input. However, a limitation restricting particulate matter emissions from the printing lines to not greater than the maximum theoretical emission rate is necessary to ensure national ambient air quality standards for particulate matter emissions are attained and maintained. This more restrictive emission limitation would be included in any operation permit issued by the Department. Because the lines were constructed after April 1, 1972 they are subject to s. NR 431.05, Wis. Adm. Code which limits visible emissions to not more than 20 percent opacity.

The printing lines are subject to s. NR 424.03(2)(c), Wis. Adm. Code which requires the use of the latest available control techniques and operating practices demonstrating best current technology (LACT) to control volatile organic compound emissions. As part of the review for permit 92-POY-068, the Department determined 85 percent control of volatile organic compound emissions to be technologically infeasible and determined LACT to be the use of coatings or inks with a maximum VOC content of 6.9 pounds per gallon as applied.

Each printer is subject to the general limitations for sulfur dioxide, carbon monoxide and nitrogen oxides contained in ss. NR 417.03, NR 426.03 and NR 428.03, Wis. Adm. Code, respectively. These general limitations would be included in Part II of any permit issued by the Department.

| Two Litho Presses with UV Ovens P41: Maximum theoretical emissions were calculated using worst case material usage rates, solid contents, volatile organic compound contents and hazardous pollutant contents. Because the facility is not located in Kenosha, Kewaunee, Manitowoc, Milwaukee, Ozaukee, Racine, Sheboygan, Washington or Waukesha county the requirements of s. NR 422.142, Wis. Adm. Code do not apply, pursuant to s. NR 422.142(1), Wis. Adm. Code. Because the maximum theoretical volatile organic compound emissions from the litho lines are greater than 15 pounds per day, the litho lines would not be exempt from the requirements of s. NR 424.03(2), Wis. Adm. Code, pursuant to s. NR 424.03(1)(a)4., Wis. Adm. Code unless the permittee were to keep daily records to show their actual emissions are less than 15 pounds per day. The permittee indicated that they do not wish to keep daily records therefore the litho lines are subject to s. NR 424.03(2)(b), Wis. Adm. Code which requires control of volatile organic compound emissions by at least 85 percent. The permittee has submitted information to demonstrate that 85 percent control of volatile organic compounds is technologically infeasible, therefore the litholines are subject to s. NR 424.03(2)(c), Wis. Adm. Code which requires the use of the latest available control techniques and operating practices demonstrating best current technology (LACT) to control volatile organic compound emissions. The Department has determined that LACT for this process would be to limit monthly volatile organic compound emissions to not more than 1666 pounds per month. This restriction would be included in any operation permit issued by the Department.

Two Roll Coaters with Electric Drying Ovens P42 (Utilized for R&D Activities): Maximum theoretical emissions were calculated using worst case material usage rates, solid contents, volatile organic compound contents and hazardous pollutant contents. The roll coaters are used to coat metal and occasionally plastic. When coating metal the coaters would normally be subject to the RACT requirements for miscellaneous metal parts and products outlined in s. NR 422.15, Wis. Adm. Code. (Note: The Sparta facility is subject to RACT requirements because of the "once-in-always-in" policy. Because the Sparta facility's VOC emissions have exceeded 100 tons per year in the past they do not qualify for the exemption from RACT outlined in s. NR 422.03(3), Wis. Adm. Code, pursuant to s. NR 422.03, Wis. Adm. Code even though they have elected to limit their facility wide potential VOC emissions to less than 100 tons per year.) In this case however, these operations are exempt from the requirements of ss. NR

422.04 to NR 422.155, Wis. Adm. Code pursuant to s. NR 422.03(5), Wis. Adm. Code provided: (1) The surface coating process sources are used exclusively for chemical or physical analysis or determination of product quality; (2) The operation of the equipment is not an integral part of the production process; and (3) the emissions from the source do not exceed 800 pounds per calendar month. These requirements would be included in any operation permit issued by the Department. Note: For this process to be exempt from construction permit requirements, VOC emissions must not exceed 1666 pounds per month pursuant to s. NR 406.04(1)(g), Wis. Adm. Code. Therefore, while operating under the Cooperative Agreement that provides a variance from RACT requirements, the permittee still must ensure that VOC emissions from this process do not exceed the monthly exemption level. Requirements limiting monthly VOC emissions from this process line to less than 1666 pounds per month would be included in the Cooperative Agreement section (Part I.A.) of any operation permit issued by the Department.

Because the maximum theoretical volatile organic compound emissions from the roll coaters are greater than 15 pounds per day, they would not be exempt from the requirements of s. NR 424.03(2), Wis. Adm. Code, pursuant to s. NR 424.03(1)(a)4., Wis. Adm. Code unless the permittee were to keep daily records to show their actual emissions are less than 15 pounds per day. The permittee indicated that they do not wish to keep daily records therefore the process is subject to s. NR 424.03(2)(b), Wis. Adm. Code which requires control of volatile organic compound emissions by at least 85 percent. This limitation applies whenever the coaters are used to coat plastic parts and because they are exempt from the RACT requirements for miscellaneous metal parts and products the limit also applies whenever the coaters are used to coat metal parts. The permittee has submitted information to demonstrate that 85 percent control of volatile organic compounds is technologically infeasible, therefore the roll coaters are subject to s. NR 424.03(2)(c), Wis. Adm. Code which requires the use of the latest available control techniques and operating practices demonstrating best current technology (LACT) to control volatile organic compound emissions. The Department has determined that LACT for this process would be to limit monthly volatile organic compound emissions from process P42 and P44 combined to not more than 800 pounds per month. This restriction would be included in any operation permit issued by the Department.

Three Screening Machines with Two Electric Drying Ovens P43: Maximum theoretical emissions were calculated using worst case material usage rates, solid contents, volatile organic compound contents and hazardous pollutant contents. Because the maximum theoretical volatile organic compound emissions from the screening lines are greater than 15 pounds per day, the process would not be exempt from the requirements of s. NR 424.03(2), Wis. Adm. Code, pursuant to s. NR 424.03(1)(a)4., Wis. Adm. Code unless the permittee were to keep daily records to show their actual emissions are less than 15 pounds per day. The permittee indicated that they do not wish to keep daily records therefore the process is subject to s. NR 424.03(2)(b), Wis. Adm. Code which requires control of volatile organic compound emissions by at least 85 percent. The permittee has submitted information to demonstrate that 85 percent control of volatile organic compounds is technologically infeasible, therefore the process is subject to s. NR 424.03(2)(c), Wis. Adm. Code which requires the use of the latest available control techniques and operating practices demonstrating best current technology (LACT) to control volatile organic compound emissions. The Department has determined that LACT for this process would be to limit monthly volatile organic compound emissions to not more than 1666 pounds per month. This restriction would be included in any operation permit issued by the Department.

Spray Booth P44 (Utilized for R&D Activities): Maximum theoretical emissions were calculated using worst case material usage rates, solid contents, volatile organic compound contents and hazardous pollutant contents. Because the spray booths were constructed after April 1, 1972 they are subject to the most restrictive of s. NR 415.05(2), Wis. Adm. Code which limits particulate matter emissions to not more than the rate calculated using the process weight rate equation or s. NR 415.05(1)(o), Wis. Adm. Code which limits particulate matter emissions to not more than 0.40 pounds per 1000 pounds gas. In this case the emission rate calculated using the process weight rate equation is most restrictive. Because the spray booths were constructed after April 1, 1972 they are subject to s. NR 431.05, Wis. Adm. Code which limits visible emissions to not more than 20 percent opacity.

The spray booth used to coat both metal and plastic. When coating metal the spray booth would normally be subject to the RACT requirements for miscellaneous metal parts and products outlined in s. NR 422.15, Wis. Adm. Code. (Note: The Sparta facility is subject to RACT requirements because of the "once-in-always-in" policy. Because the Sparta facility's VOC emissions have exceeded 100 tons per year in the past they do not qualify for the exemption from RACT outlined in s. NR 422.03(3), Wis. Adm. Code, pursuant to s. NR 422.03, Wis. Adm. Code even though they have elected to limit their facility wide potential VOC emissions to less than 100 tons per year.) In this case however, these operations are exempt from the requirements of ss. NR 422.04 to NR 422.155, Wis. Adm. Code

pursuant to s. NR 422.03(5), Wis. Adm. Code provided: (1) The surface coating process sources are used exclusively for chemical or physical analysis or determination of product quality; (2) The operation of the equipment is not an integral part of the production process; and (3) the emissions from the source do not exceed 800 pounds per calendar month. These requirements would be included in any operation permit issued by the Department.

Because the maximum theoretical volatile organic compound emissions from the spray booth are greater than 30 pounds per day, they would not be exempt from the requirements of s. NR 424.03(2), Wis. Adm. Code, pursuant to s. NR 424.03(1)(a)3., Wis. Adm. Code unless the permittee were to keep daily records to show their actual emissions are less than 30 pounds per day. The permittee indicated that they do not wish to keep daily records therefore the process is subject to s. NR 424.03(2)(b), Wis. Adm. Code which requires control of volatile organic compound emissions by at least 85 percent. This limitation applies whenever the spray booth is used to coat plastic parts and because the spray booth is exempt from the RACT requirements for miscellaneous metal parts and products the limit also applies whenever the spray booth is used to coat metal parts. The permittee has submitted information to demonstrate that 85 percent control of volatile organic compounds is technologically infeasible, therefore the spray booth is subject to s. NR 424.03(2)(c), Wis. Adm. Code which requires the use of the latest available control techniques and operating practices demonstrating best current technology (LACT) to control volatile organic compound emissions. The Department has determined that LACT for this process would be to limit monthly volatile organic compound emissions from process P42 and P44 combined to not more than 800 pounds per month. This restriction would be included in any operation permit issued by the Department.

Roll Coater P56: Maximum theoretical emissions were calculated using worst case material usage rates, solid contents, volatile organic compound contents and hazardous pollutant contents. Because the coater is equipped with an electric curing ovens, it is subject to s. NR 422.15(2)(a), (b) and (c), Wis. Adm. Code which limits the volatile organic compound contents to not more than 4.3 pounds per gallon of coating, excluding water, delivered to a coating applicator that applies clear coatings, 3.5 pounds per gallon of coating, excluding water, delivered to a coating applicator that applies extreme performance coatings, and 3.0 pounds per gallon of coating, excluding water, delivered to a coating applicator of all other coatings.

Plastic Spray Booth P57: Maximum theoretical emissions were calculated using worst case material usage rates, solid contents, volatile organic compound contents and hazardous pollutant contents. Because the spray booth was constructed after April 1, 1972 it is subject to the most restrictive of s. NR 415.05(2), Wis. Adm. Code which limits particulate matter emissions to not more than the rate calculated using the process weight rate equation or s. NR 415.05(1)(o), Wis. Adm. Code which limits particulate matter emissions to not more than 0.40 pounds per 1000 pounds gas. In this case emission rate calculated using the process weight rate equation is most restrictive. However, a limitation restricting particulate matter emissions from the spray booth to not greater than the maximum theoretical emission rate is necessary to ensure national ambient air quality standards for particulate matter emissions are attained and maintained. This more restrictive emission limitation would be included in any operation permit issued by the Department. Because the spray booth was constructed after April 1, 1972 it is subject to s. NR 431.05, Wis. Adm. Code which limits visible emissions to not more than 20 percent opacity.

The spray paint booth is subject to s. NR 424.03(2)(c), Wis. Adm. Code which requires the use of the latest available control techniques and operating practices demonstrating best current technology (LACT) to control volatile organic compound emissions. As part of the review for permit 642025010-N01, the Department determined 85 percent control of volatile organic compound emissions to be technologically infeasible and determined LACT to be the use of coatings with a maximum VOC content of 6.3 pounds per gallon as applied.

Foil Line Cold Strip Cleaner P61: Maximum theoretical emissions were calculated using worst case material usage rates, solid contents, volatile organic compound contents and hazardous pollutant contents. This process is subject to the requirements of conveyORIZED non-vapor degreasers outlined in s. NR 423.03(6), Wis. Adm. Code. Because the facility is located outside of Kenosha, Kewaunee, Manitowoc, Milwaukee, Ozaukee, Racine, Rock, Sheboygan, Walworth, Washington, Waukesha and Winnebago counties P61 is exempt from the requirements of s. NR 423.03(6)(a)2., Wis. Adm. Code, pursuant to s. NR 423.03(2)(f)2., Wis. Adm. Code. Because the facility is not located in Kenosha, Kewaunee, Manitowoc, Milwaukee, Ozaukee, Racine, Sheboygan, Washington and Waukesha counties P61 is exempt from the requirements of s. NR 423.03(6)(a)8. and 9., Wis. Adm. Code, pursuant to s. NR 423.03(2)(f)3., Wis. Adm. Code.

Miscellaneous Facility Wide Cleanup P63: Maximum theoretical emissions were calculated using worst case material usage rates, solid contents, volatile organic compound contents and hazardous pollutant contents. Because cleanup is performed using a wipe cleaning operation and the facility is located outside of Kenosha, Kewaunee, Manitowoc, Milwaukee, Ozaukee, Racine, Sheboygan, Washington or Waukesha counties, it is exempt from the requirements of s. NR 423.03, Wis. Adm. Code, pursuant to s. NR 423.03(2)(g)1., Wis. Adm. Code. The cleanup solvent use is subject to general emission limitations for volatile organic compounds outline in ss. NR 419.03 and NR 419.04, Wis. Adm. Code which would be included in Part II of any operation permit issued by the Department.

Towel Dryer P72: Historically the Department has not considered these types of towel dryers to meet the definition of process lines. Therefore, the dryer is not subject to the requirements of s. NR 424.03, Wis. Adm. Code. Therefore the dryer is subject to the general emission limitations for volatile organic compounds in ss. NR 419.03 and NR 419.04, Wis. Adm. Code. Section NR 419.03(1), Wis. Adm. Code states that no person may cause, allow or permit organic compound emissions into the ambient air which substantially contribute to the exceeding of an air standard or cause air pollution. Section NR 419.03(2), Wis. Adm. Code states that no person may cause, allow or permit organic compounds to be used or handled without using good operating practices and taking reasonable precautions to prevent the spillage, escape or emission of organic compounds, solvents or mixtures. Section NR 419.04, Wis. Adm. Code applies to the disposal of VOC wastes and states that (1) no person may cause, allow or permit the disposal of more than 1.5 gallons of any liquid VOC waste, or of any liquid, semisolid or solid waste materials containing more than 1.5 gallons of any VOC, in any one day from a facility in a manner that would permit their evaporation into the ambient air during the ozone season, except as provided for in s. NR 419.07; and (2) Disposal during the ozone season shall be by methods approved by the department, such as incineration, recovery for reuse, or transfer in closed containers to an acceptable disposal facility, such that the quantity of VOC which evaporates into the ambient air does not exceed 15% (by weight) or 1.5 gallons in any one day, whichever is larger. These requirements would be included in any operation permit issued by the Department.

Cleaning, Etching, Nickel Sealing and Anodizing Tanks P88: Maximum theoretical emissions were determined from stack test data. Because the total facility emissions of fluorides, nickel and sulfuric acid are less than the Table Values in ch. NR 445, Wis. Adm. Code process P88 is subject to the general requirements for hazardous pollutants outlined in s. NR 445.03, Wis. Adm. Code. These requirements would be included in Part II of any operation permit issued by the Department. Note: Maximum theoretical condensible PM emissions are estimated to be 0.2 pounds per hour and 0.88 tons per year. Therefore this source is an insignificant source of particulate matter emissions, pursuant to s. NR 407.05(4)10., Wis. Adm. Code.

Desmut and Brite Dip Tanks and Brite Dip Hood P89: Maximum theoretical emissions were calculated using worst case material usage rates. Because the dip tanks were constructed after April 1, 1972 they are subject to the most restrictive of s. NR 415.05(2), Wis. Adm. Code which limits particulate matter emissions to not more than the rate calculated using the process weight rate equation or s. NR 415.05(1)(o), Wis. Adm. Code which limits particulate matter emissions to not more than 0.40 pounds per 1000 pounds gas. In this case emission rate calculated using the process weight rate equation is most restrictive. Because the dip tanks were constructed after April 1, 1972 they are subject to s. NR 431.05, Wis. Adm. Code which limits visible emissions to not more than 20 percent opacity. This process is subject to the general limitations for nitrogen oxides contained in s. NR 428.03, Wis. Adm. Code. These general limitations would be included in Part II of any permit issued by the Department.

Entire Facility:

Hazardous Air Contaminant Review - ch. NR 445, Wis. Adm. Code Requirements: Emissions from firing natural gas and propane, which are group I virgin fossil fuels, in space heaters B02, in boilers B22, B23, B24, and B25, and in the ovens associated with P32, P33, and P37 are exempt from ch. NR 445, Wis. Adm. Code requirements, pursuant to ss. NR 445.04(1)(c)1., (3)(c)1, (4)(c)1., and (4r)(b)1. and ss. NR 445.05(1)(c)1., (3)(c)1, (4)(c)1., and (4r)(b)1., Wis. Adm. Code. Emissions of all other hazardous pollutants regulated by ch. NR 445, Wis. Adm. Code are below the corresponding Table Values with the exception of 2-butoxyethanol, n-butyl alcohol, dimethyl phthalate, isophorone, methyl isobutyl ketone, toluene, and formaldehyde. A modeling analysis of 2-butoxyethanol, n-butyl alcohol, dimethyl phthalate, isophorone, methyl isobutyl ketone, and toluene shows that the impact from the facility are less than their respective acceptable ambient concentration. See the Air Quality Review section below for details. The permittee has elected to limit formaldehyde emissions to less than the Table 3B level of 250 pounds per hour. This more restrictive limitation would be included in any operation permit issued by the Department.

Hazardous Air Pollutant Review - Hazardous Air Pollutants Regulated by the Clean Air Act: The permittee elected limitations to restrict the potential emissions of each hazardous air pollutant regulated by the Clean Air Act to less than 10 tons per year and the potential emissions of all hazardous air pollutants regulated by the Clean Air Act combined to less than 25 tons per year. Therefore, the facility is considered a synthetic minor source of hazardous air pollutants. See the emission summary table below. Note: As part of the Environmental Cooperative Agreement the permittee has selected even more restrictive limitations. They have elected to limit the potential emissions of each hazardous air pollutant regulated by the Clean Air Act to less than 8 tons per year and the potential emissions of all hazardous air pollutants regulated by the Clean Air Act combined to less than 20 tons per year.

**Variances Granted Under the Cooperative Agreement between Northern Engraving and the Department:**

Part I.A. of the attached Draft Operation Permit includes the requirements the permittee would be required to meet while operating under an approved Cooperative Agreement. Part I.B. includes the permittee's applicable requirements under ch. 285, Wis. Stats. and ss. NR 400 to 499, Wis. Adm. Code as described above. Part I.B. of the draft permit would become effective if the proposed Cooperative Agreement expires or is revoked for any reason. The proposed variances under Part I.A. of the Draft Operation Permit and the proposed Cooperative Agreement are as follows:

1. Item: Waiver from the requirement to obtain a construction permit prior to commencing construction and initial operation of new process equipment, commencing modification and initial operation of existing equipment, or relocating existing process equipment between Northern Engravings Holmen, Sparta, and Galesville facilities.

Previous Requirements to be Superseded by the Cooperative Agreement [source of the requirement]:

Requirement to obtain a construction permit prior to construction, reconstruction, replacement, relocation or modification of a minor stationary source that is not otherwise exempt under s. NR 406.04, Wis. Adm. Code [s. NR 406.03, Wis. Adm. Code]

Proposed Requirement Under Cooperative Agreement:

**a. New Equipment Construction and Modification:** The permittee may commence construction or modification (but not operation) of new process equipment prior to obtaining a construction permit, provided the following conditions are met. The following conditions do not apply if a proposed project is exempt from the requirement to obtain a construction permit, pursuant to s. NR 406.04, Wis. Adm. Code. [s. 299.80(2)(h) and (4)(b), Wis. Stats.]

- (1) The permittee shall submit the following information to the Department of Natural Resources, La Crosse Area Office, 3550 Mormon Coulee Road, Room 104, La Crosse, WI, 54601 **OR** other location specified by the Department:
  - (a) Two copies of a complete construction and operation permit application describing the proposed equipment;
  - (b) An application fee of \$1350 or other amount as required by s. NR 410.03(1)(d), Wis. Adm. Code; and
  - (c) Information describing how the interested persons group was notified of the proposed project. [ss. 299.80(10) and (11)(b), Wis. Stats.]
- (2) The Department shall process the permit application in accordance with ss. 285.60 through 285.69, Wis. Stats and ss. NR 406 and NR 407, Wis. Adm. Code, however, the permittee need not wait for permit issuance to commence construction. The Department shall process the permit application as both a construction permit and a significant revision to this operation permit and issue both permits simultaneously to reduce the administrative burden of issuing a construction permit that expires 18 months after issuance followed by an operation permit. The Department shall send an invoice outlining the fees required for processing the construction permit for the proposed project,

including the fees for an expedited permit review authorized by s. NR 410.03(o), Wis. Adm. Code, less the \$1350 permit application fee. [ss. 299.80(2)(h), (4)(b), (10) and (11)(b), Wis. Stats.]

- (3) The permittee shall pay the total amount of the fee invoice within 30 days of receipt.<sup>1</sup> [s. 299.80(10), Wis. Stats.]
- (4) The permittee shall continue to comply with all the requirements of Part I.A. of this permit so long as the cooperative agreement is in affect.<sup>2</sup> [s. 299.80(2)(h) and (4)(b), Wis. Stats.]
- (5) Nothing in this section or in any Cooperative Agreement between the Department and the permittee shall be construed as a guarantee that the Department will issue an air pollution control construction and operation permit for a proposed project. The decision on whether to approve a permit application will be made according to the requirements of chapters NR 400 through NR 499, Wis. Adm. Code and s. 285.60 through 285.69, Wis. Stats. If the Department denies a permit application pursuant to ss 285.61 through 285.64, Wis. Stats. all costs and risks associated with

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<sup>1</sup> Pursuant to s. 299.80(10), Wis. Stats., a participant in a cooperative agreement shall pay the same fees required under chs. 280 to 295, Wis. Stats. that it would be required to pay if it had not entered into a cooperative agreement. Therefore, while the requirement to obtain a construction permit prior to installation is waived, the permittee is still required to pay the fees that would have been assessed had a construction permit been issued under ch. NR 406, wis. Adm. Code.

<sup>2</sup> By continuing to comply with the facility wide emission limitations outlined in Part I.A. the net emissions increase from any new sources or relocation of any existing sources from other facilities, will not exceed the major stationary source levels of s. NR 405.02(22)(a), Wis. Adm. Code triggering Prevention of Significant Deterioration (PSD) Requirements. The existing facility potential emissions of all criteria pollutants is less than 250 tons per year and the facility is not included in the source categories listed in s. NR 405.07(4), Wis. Adm. Code, therefore the existing facility is a synthetic minor source for PSD purposes. Note: This facility is not located in an area designated nonattainment. Also, by continuing to comply with the facility wide emissions limitations, the potential emissions increase from any new sources or relocated existing sources will not exceed 100 tons per year after controls for any criteria pollutant. Therefore none of the changes will be considered a Type II action requiring an environmental assessment. Finally, by continuing to comply with the facility wide emission limitations, the facility would not become a major source for Part 70 purposes for either volatile organic compound or hazardous air pollutant emissions. Requirement I.A.5.a.(1)(g) of this permit requires that any changes that result in potential facility wide emissions of particulate matter, sulfur dioxide, nitrogen oxide or carbon monoxide emissions exceeding 100 tons per year follow permit issuance requirements of chs. NR 406 and NR 407, Wis. Adm. Code.

installing and operating the proposed equipment shall be incurred solely by the permittee. In the event that the construction and operation permit application for the proposed project is denied, the permittee shall cease construction of the equipment in question immediately.

**b. New Equipment Operation:** The permittee may operate new process equipment, provided one of the following alternate scenarios are met. The following conditions do not apply if a proposed project is exempt from the requirement to obtain a construction permit, pursuant to s. NR 406.04, Wis. Adm. Code. [s. 299.80(2)(h) and (4)(b), Wis. Stats.]

- (1) *Alternate Scenario #1:* The permittee may operate new process equipment provided the permittee submits a complete construction and operation permit application as required by the conditions of I.A.5.a. and the Department issues a construction permit pursuant to ss. 285.60 through 285.69, Wis. Stats and ss. NR 406 and NR 407, Wis. Adm. Code. The permittee shall operate the new process equipment in compliance with the conditions contained in any construction permit issued by the Department. [s. NR 406.03, Wis. Adm. Code]
- (2) *Alternate Scenario #2:* The permittee may initially operate new process equipment prior to obtaining a construction permit provided the permittee submits a complete construction and operation permit application as required by the conditions of I.A.5.a. and the following conditions are met: [s. 299.80(2)(h) and (4)(b), Wis. Stats.]

(a) The permittee shall submit two copies of the following information to the Department of Natural Resources, La Crosse Area Office, 3550 Mormon Coulee Road, Room 104, La Crosse, WI, 54601 OR other location specified by the Department, 14 calendar days prior to the date of initial operation:

- (i) Information identifying all applicable requirements from the Wisconsin Statutes, Wisconsin Administrative Code, and federal Clean Air Act for the proposed equipment;
- (ii) A quantification the air pollution emissions that would result from the proposed project;
- (iii) A computer dispersion modeling analysis showing the National Ambient Air Quality Standards will be protected if the proposed project results in an increase in potential particulate matter, sulfur dioxide, nitrogen oxide, and/or carbon monoxide emissions.
- (iv) A computer dispersion modeling analysis showing the Acceptable Ambient Concentrations will be protected if the proposed project results in an increase in emissions of any hazardous air pollutant listed in ch. NR 445, Wis. Adm. Code so that the resulting facility total emissions of the hazardous air pollutant are above the corresponding Table Value(s) OR results in the emission of any hazardous air pollutant listed in ch. NR 445, Wis. Adm. Code that was not previously emitted, at a rate greater than its corresponding Table Value(s); and
- (v) An analysis showing the proposed project will not cause the total facility wide potential emissions of particulate matter, sulfur dioxide, nitrogen oxides or carbon monoxide to exceed 100 tons per year. Any proposed new or relocated source that will result in the facility wide potential emissions of any one of these pollutants exceeding 100 tons per year is not eligible for this waiver. If the facility wide potential emissions of any one of the pollutants would be greater than 100 tons per year as the result of a proposed project, the permittee shall comply with the construction permit requirements outlined in ch. NR 406, Wis. Adm. Code and the significant operation permit revision requirements of s. NR 407.13, Wis. Adm. Code.<sup>3</sup> [ss. 299.80(10) and (11)(b), Wis. Stats.]

(b) The Department has 14 calendar days from the date that all the information outlined in (a) is received to request additional information or object to the proposed project. If the Department

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<sup>3</sup> This requirement is necessary because if the potential emissions of particulate matter, sulfur dioxide, nitrogen oxide or carbon monoxide emissions exceeds 100 tons the facility would be considered a major source for Part 70 purposes and would be required to obtain either a Part 70 source permit or a synthetic minor, non-Part 70 source permit containing conditions that limit the potential emissions of all criteria pollutants to less than 100 tons per year.

requests additional information during the original 14 calendar day period the Department shall have an additional 7 calendar days from the date of receipt of the information to request additional information or object to the proposed project. Under no scenario shall the Department have less than 14 days to review original submittal. If the Department does not respond within 14 calendar days from the date that all the information outlined in (a) is submitted, or within 7 days from the date that any additional information requested by the Department is submitted, whichever is later, the permittee may commence initial operation of the proposed equipment. The Department may provide written approval to commence initial operation of the proposed equipment prior to the end of the 14 calendar day period. If this is the case the permittee may commence initial operation upon receipt of this written approval. [ss. 299.80(2)(h) and (11)(b), Wis. Stats.]

- (3) *Alternate Scenario #3:* The permittee may initially operate new process equipment prior to obtaining a construction permit provided the permittee submits a complete construction and operation permit application as required by the conditions of I.A.5.a. and the following conditions are met: [s. 299.80(2)(h) and (4)(b), Wis. Stats.]

(a) The Department provides written approval to commence initial operation of the proposed equipment. This written approval shall only be provided after the Department completes an air quality dispersion modeling analysis to ensure that the national ambient air quality standards and acceptable ambient concentrations will be protected while the proposed equipment is operating; [s. NR 406.09, Wis. Adm. Code]

(b) The permittee shall comply with any specific conditions included in the Department's written approval to commence initial operation;

- (4) The permittee shall continue to comply with all the requirements of Part I.A. of this permit so long as the cooperative agreement is in affect.<sup>4</sup> [s. 299.80(2)(h) and (4)(b), Wis. Stats.]

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<sup>4</sup> By continuing to comply with the facility wide emission limitations outlined in Part I.A. the net emissions increase from any new sources or relocation of any existing sources from other facilities, will not exceed the major stationary source levels of s. NR 405.02(22)(a), Wis. Adm. Code triggering Prevention of Significant Deterioration (PSD) Requirements. The existing facility potential emissions of all criteria pollutants is less than 250 tons per year and the facility is not included in the source categories listed in s. NR 405.07(4), Wis. Adm. Code, therefore the existing facility is a synthetic minor source for PSD purposes. Note: This facility is not located in an area designated nonattainment. Also, by continuing to comply with the facility wide emissions limitations, the potential emissions increase from any new sources or relocated existing sources will not exceed 100 tons per year after controls for any criteria pollutant. Therefore none of the changes will be considered a Type II action requiring an environmental assessment. Finally, by continuing to comply with the facility wide emission limitations, the facility would not become a major source for Part 70 purposes for either volatile organic compound or hazardous air pollutant emissions. Requirement I.A.5.a.(1)(g) of this permit requires that any changes that result in potential facility wide emissions of particulate matter, sulfur dioxide, nitrogen oxide or carbon monoxide emissions exceeding 100 tons per year follow permit issuance requirements of chs. NR 406 and NR 407, Wis. Adm. Code.



- (5) Nothing in this section or in any Cooperative Agreement between the Department and the permittee shall be construed as a guarantee that the Department will issue an air pollution control construction and operation permit for a proposed project. The decision on whether to approve a permit application will be made according to the requirements of chapters NR 400 through NR 499, Wis. Adm. Code and s. 285.60 through 285.69, Wis. Stats. If the Department denies a permit application pursuant to ss 285.61 through 285.64, Wis. Stats. all costs and risks associated with installing and operating the proposed equipment shall be incurred solely by the permittee. In the event that the construction and operation permit application for the proposed project is denied, the permittee shall cease construction and/or operation of the equipment in question immediately.

2. Item: Waiver from individual process line LACT (latest available control technique) requirements for controlling volatile organic compound emissions.

Previous Requirements to be Superseded by the Cooperative Agreement [source of the requirement]: Requirement to control volatile organic compound emissions from process lines on which construction or modification commenced on or after August 1, 1979, and which are not subject to emission limitations listed elsewhere in chs. NR 419 to 423, Wis. Adm. Code by at least 85 percent OR where 85 percent control has been demonstrated to be technologically infeasible, to control volatile organic compounds using the latest available control techniques and operating practices demonstration best current technology, as approved by the Department. [s. NR 424.03(2)(b) and (c), Wis. Adm. Code]

**Sparta - LACT Requirements from Existing Permits**

Process P37: Permit 92-POY-068 Condition I.B. Specific Emission Limitation for VOCs  
Permit EOP-10-KJC-83-42-077A Condition I.A.4. Specific Emission Limitation for VOCs  
Permit EOP-10-KJC-83-42-077 Condition I.A.8. Specific Emission Limitation for VOCs  
Process P57: Permit 642025010-N01 Condition I.A.1. Specific Emission Limitation for OCs

Proposed Requirement Under Cooperative Agreement: Total volatile organic compound emissions from the Sparta facility may not exceed 85 tons per year averaged over each 12 consecutive month period.

3. Item: Monthly rather than daily record keeping requirements.

Previous Requirements to be Superseded by the Cooperative Agreement [source of requirement]: The following permit conditions require Northern Engraving to keep daily records:

**Sparta - Daily Record Keeping Requirements from Existing Permits:**

Permit 92-POY-157 Conditions I.I.A.2.b., I.I.A.2.f., I.I.A.2.g., I.I.C.2.b., I.I.C.2.f., and I.I.C.2.g.  
Permit 91-POY-088 Conditions I.I.A.2.b., I.I.A.2.d., and I.I.A.2.e.  
Permit 93-IRS-040 Condition I.I.F.2.b.

Proposed Requirement Under Cooperative Agreement: To demonstrate compliance status with the facility wide emission limitations for volatile organic compound and hazardous air pollutants, Northern Engraving would be required to keep monthly records of VOC emissions as follows:

**a. Compliance Demonstration Methods for VOCs:**

- (1) Each month the permittee shall calculate the total volatile organic compound emissions from the facility as follows:

$$E = (1 \text{ ton}/2000 \text{ lbs}) \times \{[(U_1 \times W_1 \times C_1) + (U_2 \times W_2 \times C_2) + \dots + (U_n \times W_n \times C_n)] - [(S_1 \times P_1) + (S_2 \times P_2) + \dots + (S_m \times P_m)]\}$$

where:

E is the monthly VOC emissions (tons/month);

U is the monthly usage of each ink, coating, solvent, or other VOC containing material used during the month (gallons/month);

W is the density of each ink, coating, solvent, or other VOC containing material used during the month (pounds/gallon)

C is the VOC content of each ink, coating, solvent, or other VOC containing material used during the month expressed as a weight fraction (i.e. if a material is 25% VOC by weight C would be 0.25);

n identifies each ink, coating, solvent or other VOC containing material used during the month;

S is the amount of each spent ink, coating, solvent or other VOC containing material recovered and shipped off site each month (lbs/month);

P is the VOC content of each spent ink, coating, solvent or other VOC containing material recovered and shipped off site each month expressed as a weight fraction (i.e. if a spent material is 25% VOC by weight P would be 0.25);

m identifies each spent ink, coating, solvent or other VOC containing material recovered and shipped off site during the month.

[s. NR 407.09(4)(a)1., Wis. Adm. Code]

- (2) To demonstrate compliance with the facility wide volatile organic compound emission limitation of 85 tons per year, the permittee shall calculate the total volatile organic compound emissions from the facility, averaged over each 12 consecutive month period by summing the monthly volatile organic compound emissions as calculated in a.(1) above for each consecutive 12 month period. This calculation shall be performed within fifteen calendar days of the end of each month for the previous 12 consecutive month period. [s. NR 407.09(4)(a)1., Wis. Adm. Code]
- (3) The permittee shall use U.S. EPA Method 24, or coating manufacturer's formulation data to determine the VOC content ( $C_n$ ) and the density ( $W_n$ ) of the of the inks, coatings, solvents or other VOC containing materials used. In case of an inconsistency between the Method 24 results and the formulation data, the Method 24 results will govern. [s. NR 439.04(1)(d), Wis. Adm. Code]
- (4) The permittee shall analyze the spent ink, coating, solvent and other VOC containing material recovered and shipped off site to determine the VOC content (P) no less than: (a) each time there is a change to materials or process operations that may affect the waste stream; or (b) annually, which ever is most frequent. [s. NR 439.04(1)(d), Wis. Adm. Code]

**b. Record Keeping and Monitoring Requirements for VOCs:**

- (1) The permittee shall keep records of the following for each ink, coating, solvent, or other VOC containing material used at the facility:
  - (a) A unique name or identification number; and
  - (b) The VOC content, expressed as a weight fraction ( $C_n$ ).[s. NR 439.04(1)(d), Wis. Adm. Code]
- (2) The permittee shall keep monthly records of:
  - (a) The amount of each ink, coating, solvent, or other VOC containing material used in gallons per month ( $U_n$ );
  - (b) The density of each ink, coating, solvent, or other VOC containing material used in pounds per gallon ( $W_n$ );
  - (c) The amount of spent ink, coating, solvent, or other VOC containing material recovered and shipped off site in pounds per month ( $S_m$ );
  - (d) The VOC content of each spent ink, coating, solvent or other VOC containing material recovered and shipped off site, expressed as a weight fraction ( $P_m$ ).
  - (e) The total monthly VOC emissions from the facility in tons per month (E), as calculated in a.(1); and
  - (f) The total VOC emissions from the facility in tons per year as calculated in a.(2).[s. NR 439.04(1)(d), Wis. Adm. Code]

**c. Compliance Demonstration Methods for HAPs:**

- (1) Each month the permittee shall calculate the total emissions of each hazardous air pollutant from the facility regulated by the Clean Air Act as follows:<sup>5</sup>

$$E_x = (1 \text{ ton}/2000 \text{ lbs}) \times \{[(U_1 \times W_1 \times H_1) + (U_2 \times W_2 \times H_2) + \dots + (U_n \times W_n \times H_n)] \\ - [(S_1 \times I_1) + (S_2 \times I_2) + \dots + (S_m \times I_m)]\}$$

where:

$E_x$  is the monthly emissions of each hazardous air pollutant regulated by the Clean Air Act (tons/month);

$x$  identifies each HAP emitted from the facility

$U$  is the monthly usage of each ink, coating, solvent, or other HAP containing material used during the month (gallons/month);

$W$  is the density of each ink, coating, solvent, or other HAP containing material used during the month (pounds/gallon)

$H$  is the HAP content of each ink, coating, solvent, or other HAP containing material used during the month expressed as a weight fraction (i.e. if a material is 25% HAP by weight  $H$  would be 0.25);

$n$  identifies each ink, coating, solvent or other HAP containing material used during the month;

$S$  is the amount of each spent ink, coating, solvent or other HAP containing material recovered and shipped off site each month (lbs/month);

$I$  is the HAP content of each spent ink, coating, solvent or other HAP containing material recovered and shipped off site each month expressed as a weight fraction (i.e. if a spent material is 25% HAP by weight  $I$  would be 0.25);

$m$  identifies each spent ink, coating, solvent or other HAP containing material recovered and shipped off site during the month.

[s. NR 407.09(4)(a)1., Wis. Adm. Code]

- (2) To demonstrate compliance with the facility wide limitation on each hazardous air pollutant emissions of 8 tons per year, the permittee shall calculate the emissions of each hazardous air pollutant regulated by the Clean Air Act, averaged over each 12 consecutive month period by summing the monthly emissions of each hazardous air pollutant regulated by the Clean Air Act as calculated in c.(1) for each consecutive 12 month period. This calculation shall be performed within fifteen calendar days of the end of each month for the previous 12 consecutive month period. [s. NR 407.09(4)(a)1., Wis. Adm. Code]

- (3) Each month the permittee shall calculate the total emissions of hazardous air pollutants regulated by the Clean Air Act as follows:

$$E_{\text{hap}} = \Sigma E_x$$

where:

$E_{\text{hap}}$  is the monthly total emissions of all hazardous air pollutants regulated by the Clean Air Act that are emitted by the facility (tons/month);

$E_x$  is the monthly emissions of each hazardous air pollutant regulated by the Clean Air Act (tons/month) as calculated in c.(1);

$x$  identifies each HAP emitted from the facility.

[s. NR 407.09(4)(a)1., Wis. Adm. Code]

- (4) To demonstrate compliance with the facility wide limitation on the total hazardous air pollutants emitted from the facility of 20 tons per year, the permittee shall calculate the total emissions of all

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<sup>5</sup> This calculation shall be performed for each hazardous air pollutant regulated by the Clean Air Act that is emitted from the facility.

hazardous air pollutants regulated by the Clean Air Act, averaged over each 12 consecutive month period by summing the monthly emissions of all hazardous air pollutants regulated by the Clean Air Act as calculated in c.(3) for each consecutive 12 month period. This calculation shall be performed within fifteen calendar days of the end of each month for the previous 12 consecutive month period. [s. NR 407.09(4)(a)1., Wis. Adm. Code]

- (5) The permittee shall use coating manufacturer's formulation data to determine the HAP content ( $H_n$ ) of the of the inks, coatings, solvents or other HAP containing materials used. [s. NR 439.04(1)(d), Wis. Adm. Code]
- (6) The permittee shall analyze the spent ink, coating, solvent and other HAP containing material recovered and shipped off site to determine the HAP content ( $H$ ) no less than: (a) each time there is a change to materials or process operations that may affect the waste stream; or (b) annually, which ever is most frequent. [s. NR 439.04(1)(d), Wis. Adm. Code]

**d. Record Keeping and Monitoring Requirements for HAPs:**

- (1) The permittee shall keep records of the following for each ink, coating, solvent, or other HAP containing material used at the facility:
  - (a) A unique name or identification number; and
  - (b) The weight fraction of each HAP contained in the material ( $H_n$ ). [s. NR 439.04(1)(d), Wis. Adm. Code]
- (2) The permittee shall keep monthly records of:
  - (a) The amount of each ink, coating, solvent, or other HAP containing material used in gallons per month ( $U_n$ );
  - (b) The density of each ink, coating, solvent, or other HAP containing material used in pounds per gallon ( $W_n$ );
  - (c) The amount of spent ink, coating, solvent, or other HAP containing material recovered and shipped off site in pounds per month ( $S_m$ );
  - (d) The weight fraction of each HAP contained in each spent ink, coating, solvent or other HAP containing material recovered and shipped off site, expressed as a weight fraction ( $I_m$ );
  - (e) The facility total monthly emissions of each HAP in tons per month ( $E_x$ ), as calculated in c.(1);
  - (f) The total monthly HAP emissions from the facility in tons per month ( $E_{hap}$ ), as calculated in c.(3);
  - (g) The facility total emissions of each HAP in tons per year as calculated in c.(2).
  - (h) The total HAP emissions from the facility in tons per year as calculated in c.(4). [s. NR 439.04(1)(d), Wis. Adm. Code]

- 4. Item: Waiver from the requirements for Processes P32, P33, and P56 at the Sparta Facility to comply with the RACT (reasonably available control technology) requirements for controlling volatile organic compound emissions.

Previous Requirements to be Superseded by the Cooperative Agreement [source of requirement]:

- A. 3 Roll Coating Machines P32: Requirement to limit volatile organic compound emissions from a miscellaneous metal parts or products coating line using baked or specially cured coating technology to not more than (a) 4.3 pounds per gallon of coating, excluding water, delivered to a coating applicator that applies clear coatings; (b) 3.5 pounds per gallon of coating, excluding water, delivered to a coating applicator that applies extreme performance coatings; (c) 3.0 pounds per gallon of coating, excluding water, delivered to a coating applicator for all other coatings. [s. NR 422.15(2), Wis. Adm. Code, the Specific Emission Limitation for volatile organic compounds in condition I.C.1. and conditions I.C.2.c., I.C.2.d., and I.C.2.e. of Air Pollution Control Permit

*92-POY-157 and the Specific Emission Limitations for volatile organic compounds in conditions I.A.1. and conditions I.A.2.c., I.A.2.d., and I.A.2.e. of Air Pollution Control Permit 91-POY-088.]*

- B. 2 Metal Spray Booths P33: Requirement to limit volatile organic compound emissions from a miscellaneous metal parts or products coating line using baked or specially cured coating technology to not more than (a) 4.3 pounds per gallon of coating, excluding water, delivered to a coating applicator that applies clear coatings; (b) 3.5 pounds per gallon of coating, excluding water, delivered to a coating applicator that applies extreme performance coatings; (c) 3.0 pounds per gallon of coating, excluding water, delivered to a coating applicator for all other coatings. [*s. NR 422.15(2), Wis. Adm. Code, the Specific Emission Limitation for volatile organic compounds in condition I.A.1. and conditions I.A.2.c., I.A.2.d., and I.A.2.e. of Air Pollution Control Permit 91-POY-157, and the Specific Emission Limitations for volatile organic compounds in condition I.D.1. of Air Pollution Control Permit 91-POY-088.]*
- C. Roll Coating Line with Electric Oven P56: Requirement to limit volatile organic compound emissions from a miscellaneous metal parts or products coating line using baked or specially cured coating technology to not more than (a) 4.3 pounds per gallon of coating, excluding water, delivered to a coating applicator that applies clear coatings; (b) 3.5 pounds per gallon of coating, excluding water, delivered to a coating applicator that applies extreme performance coatings; (c) 3.0 pounds per gallon of coating, excluding water, delivered to a coating applicator for all other coatings. [*s. NR 422.15(2), Wis. Adm. Code, the Specific Emission Limitation for volatile organic compounds in condition I.F.1. and condition I.F.2.c. of Air Pollution Control Permit 93-IRS-040.]*

New Requirement: Volatile organic compound emissions from the Sparta facility may not exceed 85 tons per year averaged over each 12 consecutive month period.

The proposed agreement would allow a variance from the requirement to obtain a construction permit prior to constructing, modifying, relocating and initially operating process equipment provided the permittee meets the conditions listed under item 1. above. The permittee would be required to submit a complete construction and operation permit application, an explanation of how they have informed their interested persons group, and the application fee prior to commencing construction. The permittee would assume the risk of constructing without a permit. In order to operate any new equipment the permittee would be required to comply with one of three alternate scenarios. Under the first scenario the permittee would not be allowed to operate the new equipment until the Department issues a construction permit. Under the second scenario the permittee would be required to submit a detailed review of the proposed project including a detailed modeling analysis, complete permit application and determination that the proposed equipment will meet applicable limitations. The Department would then have 14 calendar days from the date of the permittee's submittal to object to the proposal or request additional information. Under the third scenario the permittee would be allowed to initially operate only after receiving a written approval from the Department. The Department would only issue this approval after the air quality dispersion modeling analysis is completed and conditions are developed to ensure the national ambient air quality standards and the acceptable ambient concentrations are protected. Prior approval to construct or initially operate would not constitute final Department approval of any permit application. The Department will review the application and make a determination to approve or disapprove the permit application following the procedures of ch. 285, Wis. Stats and chs. NR 400 through 499, Wis. Adm. Code. If the Department does not approve the application, the permittee would be required to discontinue construction and initial operation at their own expense.

This variance from the requirement to obtain a construction permit prior to commencing construction and initial operation gives the permittee greater flexibility than otherwise allowed under chs. 280 to 295, Wis. Stats. and the rules promulgated under those chapters, pursuant to s. 299.80(2)(h), Wis. Stats. Due to the nature of the permittee's business they need to be responsive to their customer's demands in a shorter time frame than allowed by the current construction permit process. To be able to operate without a permit the permittee would either wait for the Department to issue a construction permit, complete an air quality dispersion modeling analysis and provide written approval, or take on additional responsibilities. The additional responsibility would include systematically assessing the pollution that the proposed project would cause and ensuring that they would comply with all applicable air pollution requirements. Because the permittee would be required to comply with a facility wide emissions cap even with the addition of any new equipment there would be no resulting increase in their potential facility emissions. The added flexibility provided by this variance would reduce the time and money spent not only by the permittee but

also by the Department on administrative tasks that do not result in benefits to the environment, pursuant to s. 299.80(2)(i), Wis. Stats. Because of the fluctuating nature of their business the permittee currently submits a number of construction permit application each year in attempt to predict their customers' needs. The Department processes these applications and issues construction permits. The majority of the time, the permittee finds that the equipment they've permitted is not the equipment necessary to meet customer demands and they do not install it. The flexibility to construct and initially operate equipment in a shorter time frame would eliminate processing unnecessary permits saving both the permittee and the Department time and money and allowing both parties to focus on processing the permits that are required.

The proposed agreement would allow a variance from the LACT requirements for processes P37, P57, P41, P42, P43, and P44. These LACT requirements were previously determined by the Department as part of the review of the air pollution control permits listed above and are:

Process P37: the use of coatings or inks with a maximum VOC content of 6.9 pounds per gallon as applied.

Process P57: the use of coatings or inks with a maximum VOC content of 6.3 pounds per gallon as applied.

Process P41: VOC emission not to exceed 1666 pounds per month.

Process P42: VOC emissions from process P42 and P44 combined not to exceed 800 pounds per month.

Process P43: VOC emission not to exceed 1666 pounds per month.

Process P44: VOC emissions from process P42 and P44 combined not to exceed 800 pounds per month.

The proposed agreement would also allow a variance from the RACT requirements for processes P32, P33, P56, P42, and P44. The RACT requirements for these process lines would be the use of coatings with a maximum VOC content of not more than (a) 4.3 pounds per gallon of coating, excluding water, delivered to a coating applicator that applies clear coatings; (b) 3.5 pounds per gallon of coating, excluding water, delivered to a coating applicator that applies extreme performance coatings; (c) 3.0 pounds per gallon of coating, excluding water, delivered to a coating applicator for all other coatings.

As shown in the Facility Emissions section, the potential volatile organic compound emissions that could result if LACT and RACT were the only restriction applied to the facility is 1337.86 tons per year. The permittee has elected to take additional restrictions as part of their operation permit so the facility would be considered a synthetic minor, non-Part 70 source. Under this restriction the potential volatile organic compound emissions would be 99 tons per year. Under the Cooperative Agreement the permittee has proposed to further limit their potential volatile organic emissions to not more than 85 tons per year. This reduction in the overall level of volatile organic compound emissions satisfies the requirements that any variance granted under a Cooperative Agreement promote the reduction in overall levels of pollution to below the levels required under chs. 280 to 295, Wis. Stats., pursuant to s. 299.80(4)(b), Wis. Stats.

While the applicable LACT and RACT requirements are in terms of the pounds of volatile organic compounds in a gallon of material, the proposed variance does not limit the VOC content of the materials used at the plant, but limits the overall VOC emissions as shown above. Air pollution limitations are intended to protect National Ambient Air Quality Standards (NAAQSs) established by the U.S. Environmental Protection Agency. Currently there are no NAAQSs for VOC. Volatile organic compound emissions are regulated because they react with nitrogen oxides in the atmosphere on hot sunny days to form ozone, more commonly known as smog. If present at high enough concentrations, surface level ozone can potentially impact public health and the environment. The U.S. EPA has established NAAQSs for ozone. Because of the way that ozone is formed, it is generally a regional problem where many sources of VOC and nitrogen oxide emissions contribute to its formation. Some large urban areas including southeastern Wisconsin are classified as ozone nonattainment areas. None of the counties in the western part of Wisconsin including La Crosse, Trempealeau, and Monroe Counties are classified as nonattainment areas for ozone.

As the RACT requirements of ch. NR 422, Wis. Adm. Code are currently written, facilities which are located outside of Brown, Calumet, Dane, Dodge, Door, Fond du Lac, Jefferson, Kenosha, Kewaunee, Manitowoc, Milwaukee, Outagamie, Ozaukee, Racine, Rock, Sheboygan, Walworth, Washington, Waukesha and Winnebago counties and which have total emissions of VOC, with all control equipment inoperative, of less than 100 tons per year are exempt from the RACT requirements pursuant to s. NR 422.03(3), Wis. Adm. Code. The Northern Engraving - Sparta facility would meet both of these criteria under this proposed draft operation permit. It is not located in any

of the above counties and has reduced its actual VOC emissions to less than 100 tons per year. (Note: In the past Northern Engraving's Sparta facility had actual emissions greater than 100 tons per year.) Pursuant to the exemption applicability outlined in s. NR 422.03, Wis. Adm. Code, once a facility exceeds the exemption level of 100 tons of VOC per year it is subject to RACT regardless of what their future VOC emissions are. The Northern Engraving - Sparta facility has been able to reduce their VOC emissions from greater than 100 tons per year to less than 100 tons per year and any operation permit issued to the facility would limit the facility's potential VOC emissions to less than 100 tons per year. Therefore granting Northern Engraving a variance from RACT would be no less stringent than the limitations that apply to an air pollution source of a similar size in the western part of Wisconsin.

To demonstrate that their VOC emissions remain below 85 tons per year, the permittee has proposed an alternate record keeping method to reduce their administrative burden. The permittee has proposed to keep monthly records of the VOC containing materials used at their facility to determine their overall facility emissions. These types of records should demonstrate compliance status with the alternate limitation of 85 tons of VOC per year as required by s. 299.80(4)(b), Wis. Stats.

In addition to a more restrictive limitation on VOCs, the permittee has elected a more restrictive limitation on hazardous air pollutant emissions. To be a minor source of hazardous air pollutants, a facility's potential emissions of each hazardous air pollutant regulated by the Clean Air Act must be less than 10 tons per year and the potential emissions of all hazardous air pollutants regulated by the Clean Air Act combined must be less than 25 tons per year. The permittee has elected to take further restrictions and proposes to limit the potential emissions of each hazardous air pollutant regulated by the Clean Air Act to less than 8 tons per year and the potential emissions of all hazardous air pollutants regulated by the Clean Air Act combined to less than 20 tons per year.

Please refer to the Cooperative Agreement and its supporting documentation for more information regarding the variances granted under that pilot program.

#### **AIR QUALITY REVIEW**

A modeling analysis was completed by John Roth on February 27, 2001. This analysis assessed the impact of the particulate matter, sulfur dioxide, nitrogen oxide, carbon monoxide, 2-butoxyethanol, n-butyl alcohol, dimethyl phthalate, isophorone, methyl isobutyl ketone, and toluene emissions from Northern Engraving Company in Sparta, Monroe County. The results listed below demonstrate that all applicable ambient air quality standards will be attained and maintained assuming the potential emission rates and stack parameters listed in the source table of Roth's February 27, memo and assuming stacks S12, S13, S14, and S15 are not equipped with obstructions that prevent vertical discharge of exhaust gases. Any operation permit issued by the Department will include this requirement.

NAAQS Analysis Results (All Concentrations in $\mu\text{g}/\text{m}^3$ )					
Pollutant	Facility Impact	Background	Total Concentration	NAAQS or AAC	% NAAQS or AAC
TSP - 24 hr	57.7	41.8	99.5	150.0	66.3
PM <sub>10</sub> - 24 hr	57.5	29.8	87.5	150.0	58.3
PM <sub>10</sub> - Annual	5.9	9.8	15.7	50.0	31.4
SO <sub>2</sub> - 3 hr	4.7	137.1	141.8	1300.0	10.9
SO <sub>2</sub> - 24 hr	1.7	35.2	36.9	365.0	10.1
SO <sub>2</sub> - Annual	0.3	7.9	8.2	80.0	10.3
CO - 1 hr	131.4	3188.0	3319.4	40,000	8.3

NAAQS Analysis Results (All Concentrations in $\mu\text{g}/\text{m}^3$ )					
Pollutant	Facility Impact	Background	Total Concentration	NAAQS or AAC	% NAAQS or AAC
CO - 8 hr	78.0	890.4	968.4	10,000	9.7
No <sub>x</sub> - Annual	46.5	4.7	51.2	100.0	51.2
2-butoxyethanol	2239.9	--	2239.9	2880.0	77.7
n-butyl alcohol	2029.3	--	2029.3	15,000	14.7
dimethyl phthalate	118.6	--	118.6	120.0	98.8
isophorone	1601.9	--	1601.9	2500.0	64.1
MIBK	1076.7	--	1076.7	4920.0	21.9
toluene-24 hr	1800.0	--	1800.0	9000.0	20.0
toluene-annual	155.8	--	155.8	400.0	39.0

### **FACILITY EMISSIONS**

Actual emissions are the total emissions generated by the emission sources identified below over the specified time period taking into account any reductions made by a control device or technique. Maximum theoretical emissions are the quantity of air contaminants that theoretically could be emitted by the emissions sources identified below, without considering emission control devices, based on the design capacity of the source. Potential to emit is the maximum capacity of the emission sources identified below to emit any air contaminant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air contaminant shall be treated as part of its design if the limitation is Federally enforceable.

#### **A. STACK EMISSIONS**

##### **1. B02, Stack S02 - Nat. Gas/Propane Space Heaters with a Total Rating of 33.4 mmBtu/hr - Installed 1994**

Pollutant	Maximum Theoretical		Potential to Emit		Maximum Allowables	
	lbs/hr	TPY	lbs/hr	TPY	lbs/hr	TPY
Particulate matter emissions	0.25	1.11	0.25	1.11	5.01	21.94
Sulfur Dioxide	0.02	0.09	0.02	0.09	0.02	0.09
Nitrogen oxides	6.90	30.21	6.90	30.21	6.90	30.21
Carbon Monoxide	2.81	12.29	2.81	12.29	2.81	12.29
VOCs	0.18	0.80	0.18	0.80	0.18	0.80

##### **2. P03, Stack S03 - 5 Lithographic Lines with UV Curing - Installed 1988**

Pollutant	Maximum Theoretical		Potential to Emit		Maximum Allowables	
	lbs/hr	TPY	lbs/hr	TPY	lbs/hr	TPY



VOCs	1.75	7.67	1.75	#	1.75	7.67
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3. **B22, Stack S12 - Natural Gas/Propane Boiler Rated at 8.4 mmBtu/hr - Installed 1961**

Pollutant	Maximum Theoretical		Potential to Emit		Maximum Allowables	
	lbs/hr	TPY	lbs/hr	TPY	lbs/hr	TPY
Particulate matter emissions	0.06	0.28	0.06	0.28	5.04	22.08
Sulfur Dioxide	0.005	0.2	0.005	0.2	0.005	0.2
Nitrogen oxides	1.73	7.60	1.73	7.60	1.73	7.60
Carbon Monoxide	0.71	3.09	0.71	3.09	0.71	3.09
VOCs	0.05	0.20	0.05	0.20	0.05	0.20

4. **B23, Stack S13 - Natural Gas/Propane Boiler Rated at 10.6 mmBtu/hr - Installed 1971**

Pollutant	Maximum Theoretical		Potential to Emit		Maximum Allowables	
	lbs/hr	TPY	lbs/hr	TPY	lbs/hr	TPY
Particulate matter emissions	0.08	0.35	0.08	0.35	6.36	27.86
Sulfur Dioxide	0.006	0.03	0.006	0.03	0.006	0.03
Nitrogen oxides	2.19	9.59	2.19	9.59	2.19	9.59
Carbon Monoxide	0.89	3.90	0.89	3.90	0.89	3.90
VOCs	0.06	0.26	0.06	0.26	0.06	0.26

5. **B24, Stack S14 - Natural Gas/Propane Boiler Rated at 10.6 mmBtu/hr - Installed 1971**

Pollutant	Maximum Theoretical		Potential to Emit		Maximum Allowables	
	lbs/hr	TPY	lbs/hr	TPY	lbs/hr	TPY
Particulate matter emissions	0.08	0.35	0.08	0.35	6.36	27.86
Sulfur Dioxide	0.006	0.03	0.006	0.03	0.006	0.03
Nitrogen oxides	2.19	9.59	2.19	9.59	2.19	9.59
Carbon Monoxide	0.89	3.90	0.89	3.90	0.89	3.90
VOCs	0.06	0.26	0.06	0.26	0.06	0.26

6. **B25, Stack S15 - Natural Gas/Propane Boiler Rated at 6.3 mmBtu/hr - Installed 1961**

Pollutant	Maximum Theoretical		Potential to Emit		Maximum Allowables	
	lbs/hr	TPY	lbs/hr	TPY	lbs/hr	TPY

	lbs/hr	TPY	lbs/hr	TPY	lbs/hr	TPY
Particulate matter emissions	0.05	0.21	0.05	0.21	3.78	16.56
Sulfur Dioxide	0.004	0.018	0.004	0.018	0.004	0.018
Nitrogen oxides	1.30	5.70	1.30	5.70	1.30	5.70
Carbon Monoxide	0.53	2.32	0.53	2.32	0.53	2.32
VOCs	0.03	0.15	0.03	0.15	0.03	0.15

**7. P32, Stack S18 - 3 Roll Coating Machines, Each with a 8.0 mmBtu per hour Natural Gas/Propane Curing Oven - Controlled by Thermal Oxidizer C18 (P32-1S Installed 1984; P32-10S Installed 1989; P32-87S Installed 1993)**

Pollutant	Maximum Theoretical		Potential to Emit		Maximum Allowables	
	lbs/hr	TPY	lbs/hr	TPY	lbs/hr	TPY
Particulate matter emissions	0.24	1.08	0.24	1.08	4.85	21.22
Sulfur Dioxide	0.019	0.083	0.019	0.083	0.019	0.083
Nitrogen oxides	6.67	29.22	6.67	29.22	6.67	29.22
Carbon Monoxide	2.09	11.88	2.09	11.88	2.09	11.88
VOCs	159.99	700.75	90.46	#	90.48	396.29

**HAZARDOUS AIR POLLUTANT EMISSIONS FROM P32**

Pollutant	Maximum Theoretical		Potential to Emit	
	lbs/hr	TPY	lbs/hr	TPY
2-butoxyethanol	83.2	364.42	83.2	##
n-butyl alcohol	17.2	75.34	17.2	##
cumene	2.9	12.70	2.9	##
cyclohexanone	21.1	92.42	21.1	##
diacetone alcohol	26.2	114.76	26.2	##
ethyl benzene	24.6	107.75	24.6	##
formaldehyde	0.17	0.74	0.17	##
glycol ether	83.2	364.42	83.2	##
isophorone	40.53	177.52	40.53	##
MEK	34.3	150.23	34.3	##
MIBK	47.5	208.05	47.5	##
naphthalene	3.6	15.77	3.6	##
stoddard solvent	2.0	8.76	2.0	##

Pollutant	Maximum Theoretical		Potential to Emit	
	lbs/hr	TPY	lbs/hr	TPY
toluene	73.7	322.81	73.7	##
xylene	77.3	338.57	77.3	##

**8. P33, Stack S19 - 2 Metal Spray Booths, With a 6.4 mmBtu per hour Natural Gas/Propane Curing Oven - Controlled by Paper Paint Filters (C33) and a Thermal Oxidizer C18 - (P-33-18S-1B and P-33-18S-2B) - Installed 1993**

Pollutant	Maximum Theoretical		Potential to Emit		Maximum Allowables	
	lbs/hr	TPY	lbs/hr	TPY	lbs/hr	TPY
Particulate matter emissions	2.05	8.97	0.91	3.98	0.91	3.98
Sulfur Dioxide	0.004	0.018	0.004	0.018	0.004	0.018
Nitrogen oxides	1.32	5.79	1.32	5.79	1.32	5.79
Carbon Monoxide	0.54	2.35	0.54	2.35	0.54	2.35
VOCs	6.96	30.46	4.34	#	4.34	18.98

**HAZARDOUS AIR POLLUTANT EMISSIONS FROM P33**

Pollutant	Maximum Theoretical		Potential to Emit	
	lbs/hr	TPY	lbs/hr	TPY
2-butoxyethanol	13.8	60.44	13.8	##
n-butyl alcohol	8.5	37.23	8.5	##
cumene	0.38	1.66	0.38	##
cyclohexanone	3.2	14.02	3.2	##
diacetone alcohol	12.2	53.44	12.2	##
diisobutyl ketone	3.04	13.32	3.04	##
dimethyl phthalate	2.4	10.51	2.4	##
ethyl benzene	1.64	7.18	1.64	##
formaldehyde	0.11	0.48	0.11	##
glycol ether	7.17	31.40	7.17	##
isobutyl alcohol	0.86	3.77	0.86	##
isophorone	4.7	20.59	4.7	##
methyl n-amyl ketone	18.1	79.28	18.1	##
MEK	3.7	16.21	3.7	##

Pollutant	Maximum Theoretical		Potential to Emit	
	lbs/hr	TPY	lbs/hr	TPY
MIBK	15.1	66.14	15.1	##
naphthalene	0.92	4.34	0.92	##
phosphoric acid	0.19	0.85	0.19	##
stoddard solvent	10.1	44.24	10.1	##
toluene	21.1	92.42	21.1	##
xylene	23.1	101.18	23.1	##

**9. P37, Stack S53 - 3 Screening Lines - 2 with Natural Gas/Propane Curing, 1 with UV Curing - (P-37-12S; P-43-SOS; P-71-SOS)**

Pollutant	Maximum Theoretical		Potential to Emit		Maximum Allowables	
	lbs/hr	TPY	lbs/hr	TPY	lbs/hr	TPY
Particulate matter emissions	0.06	0.28	0.06	0.28	1.28	5.58
Sulfur Dioxide	0.005	0.022	0.005	0.022	0.005	0.022
Nitrogen oxides	1.76	7.69	1.76	7.69	1.76	7.69
Carbon Monoxide	0.71	3.13	0.71	3.13	0.71	3.13
VOCs	49.04	214.78	49.04	#	49.04	214.78

**HAZARDOUS AIR POLLUTANT EMISSIONS FROM P37**

Pollutant	Maximum Theoretical		Potential to Emit	
	lbs/hr	TPY	lbs/hr	TPY
2-butoxyethanol	32.1	140.60	32.1	##
n-butyl alcohol	9.9	43.36	9.9	##
cyclohexanone	6.0	26.28	6.0	##
diacetone alcohol	6.3	27.59	6.3	##
glycol ether	39.0	170.82	39.0	##
isophorone	2.4	10.51	2.4	##
methanol	1.8	7.88	1.8	##
MIBK	10.5	45.99	10.5	##
stoddard solvent	12.9	56.50	12.9	##
toluene	0.6	2.63	0.6	##
xylene	17.8	77.96	17.8	##

10. **P41, Stack S41 - Two Litho Pressess with Two UV Ovens - Installed 2001**

Pollutant	Maximum Theoretical		Potential to Emit		Maximum Allowables	
	lbs/hr	TPY	lbs/hr	TPY	lbs/hr	TPY
VOCs	0.95	4.17	0.95	#	0.95	4.17

HAZARDOUS AIR POLLUTANT EMISSIONS FROM P41

Pollutant	Maximum Theoretical		Potential to Emit	
	lbs/hr	TPY	lbs/hr	TPY
2-butoxyethanol *	0.085	0.37		
diisobutyl ketone *	0.02	0.09		
glycol ether	0.07	0.31		
toluene	0.01	0.04		
xylene	0.006	0.025		

11. **P42, Stack S42 - Two Roll Coaters with Two Electric Drying Ovens - Installed 2001**

Pollutant	Maximum Theoretical		Potential to Emit		Maximum Allowables	
	lbs/hr	TPY	lbs/hr	TPY	lbs/hr	TPY
VOCs	7.65	33.52	7.65	#	7.65	33.52

HAZARDOUS AIR POLLUTANT EMISSIONS FROM P42

Pollutant	Maximum Theoretical		Potential to Emit	
	lbs/hr	TPY	lbs/hr	TPY
n-butanol *	0.76	3.3		
2-butoxyethanol *	0.35	1.54		
cyclohexanone *	0.70	3.09		
diacetone alcohol *	0.38	1.7		
ethyl benzene	0.42	1.84		
glycol ether	1.25	5.48		
methylene bis(4-cyclohexylisocyanate) *	0.00029	0.0013		
MIBK	0.12	0.55		
naphthalene	0.088	0.39		
toluene	0.12	0.54		

trimethyl benzene *	0.22	0.95		
xylene	1.39	6.07		

**12. P43, Stack S43 - Three Screening Machines with Two Electric Drying Ovens - Installed 2001**

Pollutant	Maximum Theoretical		Potential to Emit		Maximum Allowables	
	lbs/hr	TPY	lbs/hr	TPY	lbs/hr	TPY
VOCs	3.99	17.47	3.99	#	3.99	17.47

**HAZARDOUS AIR POLLUTANT EMISSIONS FROM P43**

Pollutant	Maximum Theoretical		Potential to Emit	
	lbs/hr	TPY	lbs/hr	TPY
n-butanol *	0.34	1.48		
2-butoxyethanol *	2.13	9.32		
cyclohexanone *	1.76	7.73		
diacetone alcohol *	0.21	0.93		
dibutylphthalate	0.18	0.78		
diisobutyl ketone *	0.02	0.09		
ethyl benzene	0.18	0.78		
glycol ether	2.98	13.02		
methylene bis(4-cyclohexylisocyanate) *	0.00009	0.0004		
naphthalene	0.13	0.58		
stoddard solvent	0.34	1.49		
trimethyl benzene *	0.35	1.55		
xylene	0.71	3.13		

**13. P44, Stack S44 - Spraybooth - Installed 2001**

Pollutant	Maximum Theoretical		Potential to Emit		Maximum Allowables	
	lbs/hr	TPY	lbs/hr	TPY	lbs/hr	TPY
Particulate Matter Emissions	1.91	8.38	0.36	1.60	0.36	1.60
VOCs	3.49	15.29	3.49	#	3.49	15.29

**HAZARDOUS AIR POLLUTANT EMISSIONS FROM P44**

Pollutant	Maximum Theoretical		Potential to Emit	
	lbs/hr	TPY	lbs/hr	TPY

Pollutant	Maximum Theoretical		Potential to Emit	
	lbs/hr	TPY	lbs/hr	TPY
n-butanol *	0.69	3.02		
2-butoxyethanol *	0.44	1.91		
carbon black *	0.11	0.48		
diacetone alcohol *	0.67	2.92		
diisobutyl ketone *	0.55	2.39		
ethyl benzene	0.70	3.07		
glycol ether	0.22	0.96		
MEK (fed)	0.66	2.90		
MIBK	0.58	2.55		
stoddard solvent	0.22	0.97		
toluene	0.84	3.68		
xylene	2.76	12.10		

10. **P56, Stack S56 -Roll Coating Line with Electric Curing Oven - Installed 1993**

Pollutant	Maximum Theoretical		Potential to Emit		Maximum Allowables	
	lbs/hr	TPY	lbs/hr	TPY	lbs/hr	TPY
VOCs	1.2	5.26	6.88	#	6.88	30.13

11. **P57, Stack S57 - Plastic Spray Booth (uses same oven as P33) - (P-58-PBS)**

Pollutant	Maximum Theoretical		Potential to Emit		Maximum Allowables	
	lbs/hr	TPY	lbs/hr	TPY	lbs/hr	TPY
Particulate matter emissions	1.0	4.38	0.06	0.26	0.36	1.60
VOCs	3.15	13.80	3.15	#	3.15	13.08

**HAZARDOUS AIR POLLUTANT EMISSIONS FROM P57**

Pollutant	Maximum Theoretical		Potential to Emit	
	lbs/hr	TPY	lbs/hr	TPY
2-butoxyethanol	1.8	7.88	1.8	##
n-butyl alcohol	1.6	7.01	1.6	##
diacetone alcohol	1.0	4.38	1.0	##
2-ethoxy ethyl acetate	0.69	3.02	0.69	##

MEK	1.44	6.31	1.44	##
MIBK	0.60	2.63	0.60	##
stoddard solvent	0.8	3.50	0.8	##
toluene	7.6	33.29	7.6	##
xylene	4.0	17.52	4.0	##

12. **P61, Stack S61 - Foil Line Cold Strip Cleaner**

Pollutant	Maximum Theoretical		Potential to Emit		Maximum Allowables	
	lbs/hr	TPY	lbs/hr	TPY	lbs/hr	TPY
VOCs	3.60	15.78	3.60	#	3.60	15.78

HAZARDOUS AIR POLLUTANT EMISSIONS FROM P61

Pollutant	Maximum Theoretical		Potential to Emit	
	lbs/hr	TPY	lbs/hr	TPY
N,N dimethyl formamide	1.02	4.47	1.02	##

13. **P63, Stack S63 - Miscellaneous Facility Wide Cleanup**

Pollutant	Maximum Theoretical		Potential to Emit		Maximum Allowables	
	lbs/hr	TPY	lbs/hr	TPY	lbs/hr	TPY
VOCs	115.0	503.7	115.0	#	115.0	503.7

HAZARDOUS AIR POLLUTANT EMISSIONS FROM P63

Pollutant	Maximum Theoretical		Potential to Emit	
	lbs/hr	TPY	lbs/hr	TPY
2-butoxyethanol	0.1	0.44	0.1	##
cumene	0.1	0.44	0.1	##
cyclohexanone	0.1	0.44	0.1	##
diacetone alcohol	0.1	0.44	0.1	##
diisobutyl ketone	0.6	2.63	0.6	##
ethyl benzene	0.1	0.44	0.1	##
glycol ether	0.1	0.44	0.1	##
MIBK	0.1	0.44	0.1	##
naphthalene	0.75	3.29	0.75	##
stoddard solvent	3.4	14.89	3.4	##



toluene	0.2	0.88	0.2	##
xylene	0.25	1.10	0.25	##

14. **P72, Stack S72 - Towel Dryer - Installed 1991**

Pollutant	Maximum Theoretical		Potential to Emit		Maximum Allowables	
	lbs/hr	TPY	lbs/hr	TPY	lbs/hr	TPY
VOCs	25.0	73.0	25.0	#	25.0	73.0

**HAZARDOUS AIR POLLUTANT EMISSIONS FROM P72**

Pollutant	Maximum Theoretical		Potential to Emit	
	lbs/hr	TPY	lbs/hr	TPY
2-butoxyethanol	0.04	0.18	0.04	##
cumene	0.5	2.19	0.5	##
cyclohexanone	2.5	10.95	2.5	##
diacetone alcohol	0.4	1.75	0.4	##
diisobutyl ketone	1.3	5.69	1.3	##
ethyl benzene	0.03	0.13	0.03	##
glycol ether	0.04	0.18	0.04	##
MIBK	0.4	1.75	0.4	##
stoddard solvent	3.8	16.64	3.8	##
toluene	2.5	10.95	2.5	##
xylene	0.45	1.97	0.45	##

15. **P88, Stack S88 -Cleaning, Etching, Nickel Sealing, and Anodizing Tanks (C88) - Installed 1994**

**HAZARDOUS AIR POLLUTANT EMISSIONS FROM P88**

Pollutant	Maximum Theoretical		Potential to Emit	
	lbs/hr	TPY	lbs/hr	TPY
fluoride	0.1	0.44	0.01	0.04
nickel	0.05	0.22	0.005	0.02
sulfuric acid	0.1	0.44	0.01	0.04

16. **P89, Stacks S89 and S91 - Desmut and Brite Dip Tanks and Brite Dip Hood, Controlled by Scrubbers C89 and C91 - Installed 1994**

Pollutant	Maximum Theoretical		Potential to Emit		Maximum Allowables	
	lbs/hr	TPY	lbs/hr	TPY	lbs/hr	TPY

	lbs/hr	TPY	lbs/hr	TPY	lbs/hr	TPY
Particulate Matter Emissions	6.67	29.21	0.86	3.77	0.86	3.77
Nitrogen Oxides	2.8	12.6	2.8	12.6	2.8	12.6

#### HAZARDOUS AIR POLLUTANT EMISSIONS FROM P89

Pollutant	Maximum Theoretical		Potential to Emit	
	lbs/hr	TPY	lbs/hr	TPY
Nitric Acid	6.67	29.21	0.86	3.77

#### B. FACILITY EMISSIONS

Pollutant	Maximum Theoretical Emissions	Potential to Emit Under Title V Operation Permit	Maximum Allowable Emissions	Potential to Emit Under the Cooperative Agreement
	TPY	TPY	TPY	TPY
Particulate Matter Emissions	54.6	13.27	154.05	13.27
Sulfur Dioxide	0.49	0.49	0.49	0.49
Nitrogen Oxides	117.99	99.0	117.99	99.0
Carbon Monoxide	42.86	42.86	42.86	42.86
VOCs	1629.65	99.0	1337.86	87.28
Total CAA HAPs	1629.65	24.96	1337.86	20

Total HAPs Emitted from Stacks Taller Than or Equal to 25 Feet (Excludes Stacks S41, S42, S43, S44)					
Hazardous Air Pollutant	Potential to Emit		NR 445, Wis. Adm. Code Threshold Value (stacks $\geq$ 25 ft)		PTE greater than Table Value?
	(lbs/hr)	(tpy)		Units	
2-butoxyethanol*	131.04	##	41.95200	lbs/hr	yes
n-butyl alcohol*	37.2	##	29.47200	lbs/hr	yes
cumene	3.88	##	85.680000	lbs/hr	no
cyclohexanone*	32.9	##	34.96800	lbs/hr	no
diacetone alcohol*	46.2	##	83.928000	lbs/hr	no
diisobutyl ketone*	4.94	##	30.429000	lbs/hr	no
n,n-dimethyl formamide	1.02	##	10.488000	lbs/hr	no

Total HAPs Emitted from Stacks Taller Than or Equal to 25 Feet (Excludes Stacks S41, S42, S43, S44)					
Hazardous Air Pollutant	Potential to Emit		NR 445, Wis. Adm. Code Threshold Value (stacks ≥25 ft)		PTE greater than Table Value?
	(lbs/hr)	(tpy)		Units	
		4.47	13.690000	tpy	no
dimethyl phthalate	2.4	##	1.752000	lbs/hr	yes
ethyl benzene	26.37	##	152.136000	lbs/hr	no
		##	456.320000	tpy	no
2-ethoxy ethyl acetate*	0.69	##	3.1440	lbs/hr	no
fluoride*	0.01	##	0.8640	lbs/hr	no
formaldehyde	0.28	1.23	0.1250	tpy	yes
glycol ethers	129.51	##	na		
isobutyl alcohol*	0.86	##	52.46400	lbs/hr	no
isophorone	47.63	##	4.89600	lbs/hr	yes
methyl n-amyl* ketone	18.1	##	82.20000	lbs/hr	no
MEK	39.44	##	na		
methanol	1.8	##	na		
MIBK	74.2	##	71.6880	lbs/hr	yes
naphthalene	5.27	##	17.472000	lbs/hr	no
nickel	0.005	0.022	0.1250	tpy	no
nitric acid*	0.86	##	1.7520	lbs/hr	no
phosphoric acid*	0.19	##	0.3360	lbs/hr	no
stoddard solvent*	33.0	##	183.6240	lbs/hr	no
sulfuric acid*	0.01	##	0.3360	lbs/hr	no
toluene	105.7	##	131.1600	lbs/hr	no
		##	182.5300	tpy	no
xylene	122.9	##	152.13600	lbs/hr	no
<b>Total HAPS regulated by the CAA</b>		##			

Total HAPs Emitted from Stacks Shorter Than 25 Feet (S41, S42, S43, S44)					
Hazardous Air Pollutant	Potential to Emit		NR 445, Wis. Adm. Code Threshold Value (stacks <25 ft)		PTE greater than Table Value?
	(lbs/hr)	(tpy)		Units	
2-butoxyethanol*	3.01	##	9.99360	lbs/hr	no
n-butyl alcohol*	1.79	##	7.59600	lbs/hr	no
carbon black*	0.11	##	0.29040	lbs/hr	no
cyclohexanone*	2.46	##	8.32800	lbs/hr	no
diacetone alcohol*	1.26	##	19.987200	lbs/hr	no
dibutyl phthalate	0.18	##	na		
diisobutyl ketone*	0.59	##	7.245000	lbs/hr	no
ethyl benzene	1.3	##	36.228000	lbs/hr	no
		##	105.200000	tpy	no
glycol ethers	4.52	##	na		
methylene bis(4-cyclohexylisocyanate)	0.00038	##	0.00442	lbs/hr	no
MEK	0.66	##	na		
MIBK	0.7	##	17.0736	lbs/hr	no
naphthalene	0.22	##	4.164000	lbs/hr	no
stoddard solvent*	0.56	##	43.7232	lbs/hr	no
toluene	0.97	##	31.2312	lbs/hr	no
		##	42.1000	tpy	no
trimethyl benzene*	0.57	##	10.41120	lbs/hr	no
xylene	4.87	##	36.22800	lbs/hr	no
<b>Total HAPS regulated by the CAA</b>		##			

HAP = hazardous air pollutant

CAA = Clean Air Act

na = not applicable

\* denotes state-only HAPs

# The permittee has elected restrictions to limit the potential VOC emissions from the facility to not more than 85 tons per year while operating under the Cooperative Agreement and to less than 100 tons per year otherwise. See total facility emissions summarized above. These more restrictive limitations would be included in any Operation Permit issued by the Department. Note: VOC emissions from use of materials containing VOCs will be limited to 85 tons per year. The additional 2.8 tons of VOCs per year are from combustion of natural gas and propane at the facility

## The permittee has elected restrictions to limit the potential emissions of all HAPs regulated by the Clean Air Act to not more than 20 tons per year while operating under the Cooperative Agreement and to less than 25 tons per year otherwise. The permittee has elected restrictions to limit the potential emissions of each HAP regulated by the Clean Air Act to not more than 8 tons per year while operating under the Cooperative Agreement and to less than 10 tons per year otherwise. These more restrictive limitations would be included in any Operation Permit issued by the Department.

#### **FACILITY STATUS UNDER PART 70**

The facility is located in an area designated as attainment/unclassified for all criteria pollutants. The facility would be considered a synthetic minor, non-part 70 source because the permittee elected limitations to restrict the potential emissions of volatile organic compounds and the potential emissions of nitrogen oxides to each less than the major source threshold of 100 tons per year. The potential emissions of each other criteria pollutant are less than the major source threshold level of 100 tons per year. Additionally, the permittee elected limitations to restrict the potential emissions of each hazardous air pollutant regulated by the Clean Air Act to less than 10 tons per year and the potential emissions of all hazardous air pollutants regulated by the Clean Air Act combined to less than 25 tons per year.

Note: The permittee has elected to restrict the potential emissions of volatile organic compounds to not more than 85 tons per year while operating under a Cooperative Agreement with the Department. Additionally, the permittee elected to restrict the potential emissions of each hazardous air pollutant regulated by the Clean Air Act to not more than 8 tons per year and the potential emissions of all hazardous air pollutants regulated by the Clean Air Act combined to not more than 20 tons per year, while operating under a Cooperative Agreement with the Department.

#### **COMPLIANCE DEMONSTRATION MONITORING METHODS**

For details on specific compliance demonstration methods, please refer to the Draft Operation Permit.

Natural Gas/Propane Space Heaters B02: To demonstrate compliance with particulate matter and visible emission limitations the permittee would be required to retain plans and specifications of the space heaters that indicate they are designed to only burn natural gas and propane. This is an adequate compliance demonstration method because the maximum theoretical emissions while firing these fuels are less than the allowable particulate matter emission limit. Additionally, it is not expected that visible emission limitations would be exceeded while firing natural gas and propane. Please see the Draft Permit for specific compliance demonstration methods.

Natural Gas/Propane Boilers B22, B23, B24 and B25: To demonstrate compliance with particulate matter and visible emission limitations the permittee would be required to retain plans and specifications of each boiler that indicate they are designed to only burn natural gas and propane. This is an adequate compliance demonstration method because the more restrictive emission limitation is equivalent to the maximum theoretical emissions while firing these fuels. Additionally, it is not expected that visible emission limitations would be exceeded while firing natural gas and propane. Please see the Draft Permit for specific compliance demonstration methods.

5 Lithographic Printing Lines with UV curing P03: To demonstrate that the VOC emissions from P03 are less than 15 pounds per day the permittee would be required to maintain records for each individual lithographic line included under P03. The permittee would be required to use U.S. EPA Method 24, or coating manufacturer's formulation data to determine the VOC content of the materials used. Please see the Draft Permit for specific compliance demonstration methods.

3 Roll Coating Machines P32: To demonstrate compliance with particulate matter and visible emission limitations the permittee would be required to retain plans and specifications of each curing oven that indicate they are designed to only burn natural gas and propane. This is an adequate compliance demonstration method because the emission limitation is equal to the maximum theoretical emissions while firing these fuels. Additionally, because natural gas and propane are clean burning fuels it is not expected that the visible emission limitations would be exceeded while firing them.

To demonstrate compliance with the RACT VOC content limitations the permittee would be required to one of the following: (1) Use low VOC content coatings and keep records of each coating and other VOC containing material used and the VOC content as applied. The permittee would be required to use U.S. EPA Method 24, or coating manufacturer's formulation data to determine the VOC content of the materials used. (2) Operate a thermal oxidizer that destroys at least 90% of the nonmethane VOCs (VOC measured as total combustible carbon) which enter the

oxidizer and design a capture system so that at least 95 percent of the VOC are controlled. The permittee would be required to operate the oxidizer at a temperature of no less than 1260 degrees F and would be required to monitor and record the temperature continuously. They would be required to calculate and record the allowable and actual emissions daily. (3) Use in-line averaging to achieve compliance through a daily volume-weighted average of all coatings applied. The permittee would be required to calculate and record the daily volume-weighted average VOC content. Please see the Draft Permit for specific compliance demonstration methods.

2 Metal Spray Booths P33: To demonstrate compliance with particulate matter and visible emission limitations the permittee would be required to operate a paint over spray filter system on each spray booth and maintain the pressure drop across each over spray filter system within normal operating ranges whenever the process is in operation. The permittee would be required to monitor and record the pressure drop across each over spray filter system once every 8 hours of operation or once per day, whichever yields the greater number of measurements.

To demonstrate compliance with the RACT VOC content limitations the permittee would be required to one of the following: (1) Use low VOC content coatings and keep records of each coating and other VOC containing material used and the VOC content as applied. The permittee would be required to use U.S. EPA Method 24, or coating manufacturer's formulation data to determine the VOC content of the materials used. (2) Operate a thermal oxidizer that destroys at least 90% of the nonmethane VOCs (VOC measured as total combustible carbon) which enter the oxidizer and design a capture system so that at least 95 percent of the VOC are controlled. The permittee would be required to operate the oxidizer at a temperature of no less than 1260 degrees F and would be required to monitor and record the temperature continuously. They would be required to calculate and record the allowable and actual emissions daily. (3) Use in-line averaging to achieve compliance through a daily volume-weighted average of all coatings applied. The permittee would be required to calculate and record the daily volume-weighted average VOC content. Please see the Draft Permit for specific compliance demonstration methods.

3 Screen Printing Lines P37: To demonstrate compliance with particulate matter and visible emission limitations the permittee would be required to retain plans and specifications of each curing oven that indicate they are designed to only burn natural gas and propane. This is an adequate compliance demonstration method because the emission limitation is equal to the maximum theoretical emissions while firing these fuels. Additionally, because natural gas and propane are clean burning fuels it is not expected that the visible emission limitations would be exceeded while firing them.

To demonstrate compliance with the LACT VOC content limitations the permittee would be required to keep records of each ink and other VOC containing material used and the VOC content as applied. The permittee would be required to use U.S. EPA Method 24, or coating manufacturer's formulation data to determine the VOC content of the materials used. Please see the Draft Permit for specific compliance demonstration methods.

Two Litho Presses with UV Ovens P41: To demonstrate compliance with the LACT monthly VOC emission limitation the permittee would be required to calculate and record the total monthly volatile organic compound emissions from process P41 within 15 calendar days of the end of the month. Please see the Draft Permit for specific compliance demonstration methods.

Two Roll Coaters with Electric Drying Ovens P42: To demonstrate compliance with the LACT monthly VOC emission limitation and the monthly VOC emission limitation in order to be exempt from RACT requirements the permittee would be required to calculate and record the total monthly volatile organic compound emissions from process P42 within 15 calendar days of the end of the month. Please see the Draft Permit for specific compliance demonstration methods.

Three Screening Machines with Two Electric Drying Ovens P43: To demonstrate compliance with the LACT monthly VOC emission limitation the permittee would be required to calculate and record the total monthly volatile organic compound emissions from process P43 within 15 calendar days of the end of the month. Please see the Draft Permit for specific compliance demonstration methods.

Spray Booth P44: To demonstrate compliance with the LACT monthly VOC emission limitation and the monthly VOC emission limitation in order to be exempt from RACT requirements the permittee would be required to calculate and record the total monthly volatile organic compound emissions from process P44 within 15 calendar days of the end of the month. Please see the Draft Permit for specific compliance demonstration methods.

Roll Coater P56: To demonstrate compliance with the RACT VOC content limitations the permittee would be required to use low VOC content coatings and keep records of each ink and other VOC containing material used and the VOC content as applied. The permittee would be required to use U.S. EPA Method 24, or coating manufacturer's formulation data to determine the VOC content of the materials used. Please see the Draft Permit for specific compliance demonstration methods.

Plastic Spray Booth P57: To demonstrate compliance with particulate matter and visible emission limitations the permittee would be required to operate a paint over spray filter system on the spray booth and maintain the pressure drop across the over spray filter system within normal operating ranges whenever the process is in operation. The permittee would be required to monitor and record the pressure drop across each over spray filter system once every 8 hours of operation or once per day, whichever yields the greater number of measurements.

To demonstrate compliance with the LACT VOC content limitations the permittee would be required to keep records of each ink and other VOC containing material used and the VOC content as applied. The permittee would be required to use U.S. EPA Method 24, or coating manufacturer's formulation data to determine the VOC content of the materials used. Please see the Draft Permit for specific compliance demonstration methods.

Foil Line Cold Strip Cleaner P61: To demonstrate compliance with the operating practice requirements to control VOC emissions the permittee would be required to prepare and provide to operators a standard operating procedure and keep records of all repairs and maintenance performed on P61. Please see the Draft Permit for specific compliance demonstration methods.

Towel Dryer P72: To demonstrate compliance with the VOC disposal requirements of s. NR 419.04, Wis. Adm. Code, the permittee shall keep daily records of the total amount of solvents and other VOC containing materials used on clean up towels throughout the facility, the amount of solvent and other VOC containing material recovered by pressing the soiled towels prior to drying, and the calculated amount of VOCs that are emitted from the towel dryer. Please see the Draft Permit for specific compliance demonstration methods.

Desmut and Brite Dip Tanks and Brite Dip Hood P89: To demonstrate compliance with particulate matter and visible emission limitations the permittee would be required to operate two scrubbers systems in parallel, maintain the pressure drop across each scrubber system within normal operating ranges, and maintain the scrubber liquor pH of each scrubber system within the normal operating ranges whenever the process is in operation. The permittee would be required to monitor and record the pressure drop across each scrubber system and the pH of the scrubber liquor once for every 8 hours of operation or once per day, whichever yields the greater number of measurements. Please see the Draft Permit for specific compliance demonstration methods.

Facility Wide Synthetic Minor Conditions: To demonstrate compliance with the monthly limitation on VOC emissions from the entire facility the permittee would be required to calculate and record the daily VOC emissions from the facility and calculate and record the monthly VOC emissions from the facility averaged over each 12 consecutive month period. To demonstrate compliance with the monthly limitation on each Clean Air Act HAP emitted from the entire facility the permittee would be required to calculate and record the daily facility wide emissions of each Clean Air Act HAP and calculate and record the monthly facility wide emissions of each Clean Air Act HAP averaged over each 12 consecutive month period. To demonstrate compliance with the monthly limitation on total Clean Air Act HAPs emitted from the entire facility the permittee would be required to calculate and record the total daily facility wide emissions of Clean Air Act HAPs and calculate and record the total monthly facility wide emissions of Clean Air Act HAPs averaged over each 12 consecutive month period. To demonstrate compliance with the monthly limitation on formaldehyde emissions from the entire facility the permittee would be required to calculate and record the daily formaldehyde emissions from the facility and calculate and record the monthly formaldehyde emissions from the facility averaged over each 12 consecutive month period. To demonstrate compliance with the monthly fuel usage limitation to ensure nitrogen oxide emissions do not exceed 100 tons per year from the entire facility the permittee would be required to calculate and record the monthly fuel use at the facility averaged over each 12 consecutive month period. Please see the Draft Permit for specific compliance demonstration methods.

Facility Requirements: The facility would be required to submit annual compliance monitoring and annual compliance certification reports to the Department. These reports would summarize the compliance monitoring data

required by any permit issued by the Department and certify the compliance status of the facility throughout the calendar year. The compliance monitoring and compliance certification reports would be required within 30 days of the end of the reporting period.

**Compliance Demonstration Under Cooperative Agreement:** For specific compliance demonstration requirements, please refer to the Draft Operation Permit. To demonstrate compliance with the facility wide limitation on VOC emissions, the permittee would be required to calculate and record the total VOC emissions from the facility each month and calculate and record the monthly VOC emissions averaged over each 12 consecutive month period. The permittee would be required to use U.S. EPA Method 24, or manufacturer's formulation data to determine the VOC content and density of the materials used. The permittee would be required to analyze the spent ink, coating, solvent and other VOC containing material recovered and shipped off site to determine the VOC content no less than each time there is a change to materials or process operations that may affect the waste stream or annually, which ever is most frequent. To demonstrate compliance with the facility wide limitation on emissions of each Clean Air Act HAP, the permittee would be required to calculate and record the facility total emissions of each Clean Air Act HAP each month and calculate and record the monthly emissions of each Clean Air Act HAP averaged over each 12 consecutive month period. To demonstrate compliance with the facility wide limitation on total emissions of all Clean Air Act HAPs, the permittee would be required to calculate and record the facility total emissions of all Clean Air Act HAPs each month and calculate and record the monthly emissions of all Clean Air Act HAPs averaged over each 12 consecutive month period. The permittee would be required to use manufacturer's formulation data to determine the HAP content and density of the materials used. The permittee would be required to analyze the spent ink, coating, solvent and other HAP containing material recovered and shipped off site to determine the HAP content no less than each time there is a change to materials or process operations that may affect the waste stream or annually, which ever is most frequent. Compliance demonstration methods for particulate matter, nitrogen oxide, formaldehyde and visible emissions would be the same as those listed in the portion of the permit that would apply if the Cooperative Agreement was not in effect.

#### **FACILITY COMPLIANCE STATUS**

The Department finds that:

1. The source will meet applicable emission limits and other requirements.
2. The source will not cause nor exacerbate a violation of an ambient air quality standard or ambient air increment.

#### **PRELIMINARY DETERMINATION**

The Wisconsin Department of Natural Resources has reviewed the permit application and other materials submitted by Northern Engraving Corporation and hereby makes a preliminary determination that an operation permit may be issued with the following Draft Applicable Limits and Draft Permit Conditions.